DOCUMENT RESUME

ED 480 319 JC 030 437

AUTHOR	Mann, Brian W.
TITLE	Community College Effectiveness: Does Data Make a Difference?
PUB DATE	2001-00-00
NOTE	207p.; Ed.D. Dissertation, University of Missouri-Kansas City.
PUB TYPE	Dissertations/Theses - Doctoral Dissertations (041) -- Information Analyses (070) -- Tests/Questionnaires (160)
EDRS PRICE	EDRS Price MF01/PC09 Plus Postage.
DESCRIPTORS	*Administrative Policy; Change Strategies; Community Colleges; Data; Data Analysis; Data Collection; Data Interpretation; Effective Schools Research; *Information Utilization; *Methods Research; *Research Utilization; *Statistical Data; Two Year Colleges

ABSTRACT

This study aimed to describe, compare, and analyze the use of specific types of data utilized in decision-making by administrators of more and less effective community colleges. The study utilized a modified version of Kim Cameron's "Assessment of Organizational Effectiveness on Higher Education" to measure and rank community college effectiveness. The author used decision-making and organizational effectiveness survey instruments. Survey instruments were sent to 70 administrators at 19 community colleges representing 4 states, 3 major metropolitan areas, including urban and suburban locales, and 2 rural communities. Fifty sets of surveys were returned, for a response rate of 70%. Data analysis included calculating frequencies, descriptive statistics, factor analysis, bivariate correlations, and analysis of variance. The author found that significant differences based on years in current position were identified by the surveys. The author also found significant negative correlation between college enrollment and organizational effectiveness ranking, indicating that as a community college grows, effectiveness rank increases. Significant differences between the way male and female participants responded to survey items regarding student focus were identified as well. Women tend to maintain consistency between their views and practices more so than do men. Research instrument and tables appended. (Contains 66 references.) (NB)

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by
BRIAN W. MANN

B.S., Southwest Missouri State University, 1992
M.A., University of Tulsa, 1993
Ed.S., University of Missouri-Kansas City, 1998

Kansas City, Missouri
2001

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COMMUNITY COLLEGE EFFECTIVENESS:
DOES DATA MAKE A DIFFERENCE?

Brian W. Mann, Doctor of Education

University of Missouri-Kansas City, 2001

ABSTRACT

The purpose of this exploratory study was to describe, compare and analyze the use of specific types of data utilized in decision-making by administrators of more and less effective community colleges. The study utilized a modified version of Kim Cameron's "Assessment of Organizational Effectiveness in Higher Education" to measure and rank community college effectiveness. The author constructed a decision-making survey designed to identify the types of data utilized by administrators in their decision-making processes. Organizational effectiveness and decision-making survey instruments were sent to 70 administrators at 19 different community colleges representing 4 states, 3 major metropolitan areas including urban and suburban locales and 2 rural communities. Fifty sets of surveys were returned yielding a response rate of 70%. Data analysis included calculating frequencies, descriptive statistics, factor analysis, bivariate correlations and analysis of variance.

The current study found that administrators of more effective community colleges rely more heavily upon objective data than subjective data in decision-making than do administrators of less effective community colleges. Conversely, administrators of less effective community colleges rely more heavily upon subjective data than objective data in their decision-making than do administrators of more effective community colleges. Administrators of both more effective and less effective community colleges appear to rely on a fairly equal mix of input, process and output data in their decision-making process.

The results also suggested that administrator experience, community college size and complexity and gender of administrator has an impact on both perceptions of organizational effectiveness and data use in decision-making. A model is presented linking administrator decision-making and organizational effectiveness. The Decision-Making – Organizational Effectiveness Model states that if an administrator can increase core activities, goals and/or customers through leveraging different sources of power to take advantage of external opportunities and meeting legitimate internal needs as identified primarily by objective data, the administrator and organization should be effective.

This abstract of 305 words is approved as to form and content.

Eugene E. Eubanks, Ph.D.
Professor
Urban Leadership and Policy Studies in Education

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CHAPTER 1

INTRODUCTION AND PURPOSE

Introduction

The purpose of the current study is to describe, compare and analyze the use of specific types of data utilized in decision-making by administrators of more effective and less effective public community colleges.

Many studies have demonstrated that the construct of organizational effectiveness can be reliably measured in institutions of higher education and specifically in community colleges education (for example, Cameron, B.J., 1989; Cameron, K.S., 1986; Giglioti, 1987; Kleeman, 1984; Rush, 1988; Smart, 1996). The importance for a valid and reliable metric of effectiveness in institutions of higher education has increased in recent years as a result of the rapidly changing environment in which colleges and universities coupled with mounting pressures for accountability and the demonstration of effectiveness exist (Alfred, Ewell, Hudgins, & McClenney, 1999). Management strategies and decision-making processes collectively have been shown to be one of the most important factors in determining organizational effectiveness in institutions of higher education (Cameron, 1986; Child, 1975; Hambrick, 1983). The data used by administrators in institutions of higher education to make decisions is therefore critical in determining the outcomes of events and ultimately the effectiveness of the institution. No study identified in the current study investigated the link between the degree of organizational effectiveness and use of specific types of data in decision-making in institutions of higher education. The studies identified by current research project have investigated the link between administrator behavior and effectiveness (Cameron & Whetten, 1983; Chaffee, 1983), managerial strategies and effectiveness (Miles & Snow, 1978; Pfeffer & Salancik, 1978) and the decision-making process and effectiveness (Nadler & Tushman, 1988).

Need for the Study

The current study seeks to identify what data, high level administrators of a sample of community colleges reportedly use in their decision-making processes and then compare the identified data types to effectiveness measures and administrator and institutional characteristics of the administrators' corresponding college. Further, the types of data used in decision-making at more effective community colleges were compared to the types of data used in decision-making at less effective community colleges. It is hoped that the current study can provide a link between the data used by administrators in decision-making and organizational effectiveness that will help the field to understand the relationship between specific data use and effectiveness. The identification of the relationship between effectiveness and data usage could be a significant addition to the field of higher education by drawing attention to the information administrators use in making critical decisions and thus focusing decision-making efforts on particular data sources and information technologies that could produce more beneficial outcomes in less time.

Further, the results of the current study will help clarify what data are used by administrators of effective community colleges to make decisions. The clarification would allow administrators of community colleges to reevaluate their strategy of using data and/or the data they use to make critical decisions and improve the effectiveness of their institutions. The ability of administrators to make good decisions in the extremely volatile and competitive environment of today is quite possibly the most important determining factor in the success or failure of an educational institution. If the data used to make critical decisions are not the right and appropriate data or erroneous then the decision will be flawed regardless of the process. The current study will help further our efforts, as educational practitioners, to make informed and better decisions and contribute to the success of our institutions and the field of education in general.

Background

Community colleges are currently facing one of the most turbulent times in their history. Students and employers are increasing their demands for quality services, new for-profit competitors are cropping up everywhere even near campuses, expectations for technology on campus have magnified and pressures for evidence of performance and accountability have intensified (Alfred, Ewell, Hudgins, & McClenney, 1999). These realities are but a few of the many contributors to the rapidly changing world of higher education. How do community colleges combat these external pressures and thrive in the new world full of opportunity and peril?

Research suggests that in turbulent environments, decision-making processes and managerial strategies are more important in determining organizational effectiveness than structure, demographics or finances (Cameron, 1986; Child, 1975; & Hambrick, 1983). The decision-making processes in higher education, however, have become much more complex as a result of the demands yielded by the rapidly changing environment and the plethora of information available to aid practitioners in making good decisions (Moore, 1986). The information utilized to make decisions is critical to the success or failure of an institution of higher education and therefore the data used for decision-making should include relevant and reliable data (Zeiss, 1986).

A wide variety of studies have investigated the relationship between decision processes and effectiveness (for example, Bibeault, 1982; Meyer, 1979; Peters, 1987; Singh, 1986; & Rubin, 1978). No studies identified by the current study, however, have attempted to link the construct of effectiveness to the use of specific data in decision-making. The current study therefore will investigate this link, if any, between organizational effectiveness and the use of data types in decision-making.

Research Questions

To research the existence and nature of a link between organizational effectiveness and the use of data in decision-making the current study will endeavor to answer the following questions:

1. What data types do administrators of public community colleges use in decision-making?
2. Is the usage of specific data types by public community college in decision-making a covariant of organizational effectiveness?
3. Is there a difference between the data types administrators of more effective public community colleges use to make decisions and the data types

administrators of less effective public community colleges use to make decisions?

Assumptions in the Study

The current study operates on two fundamental assumptions. The first assumption is that organizational effectiveness can be accurately measured exclusively by the perception of administrators of the community colleges represented in the sample.

The second assumption is that community college administrators who participate in the current study will accurately evaluate personal perceptions and respond honestly. That is community college administrators will accurately evaluate personal perceptions of the organizational effectiveness of their college; administrators will accurately evaluate the data they personally use in their decision-making; and administrators will record honest and accurate responses to the items presented in the two surveys utilized in the current study.

Limitations of the Study

The current research project only considered the perspective of a select group of administrators within each of the participating community colleges. The current study did not consider the organizational effectiveness perspective of any other constituency found in the confines of higher education such as students, faculty, or parents.

The survey instrument utilized to identify the data administrators used to make decisions was created specifically for the current study by the author. Because the current study represents the first time the decision-making survey has been used, the identification of the instrument's limitations in application was not possible. Before the decision-making survey is utilized in another study the data presented in the current research should be reviewed and the survey items should be revisited for validity and reliability purposes.

Further, because the current study was intended to be a foundational study the sample size was small and only included community colleges in the Midwest and California. Additional studies throughout the country with larger sample sizes are necessary to verify the results found in the current research.

Definitions

Several definitions of terms used throughout the current work require clarification. The terms requiring clarification and thus definitions are as follows:

(a) Organizational effectiveness – "the extent to which an institution possesses the capacity to respond favorably to the needs and expectations of different constituencies," (Cameron & Tschirhart, 1992, p. 94).

Management strategies – the pattern of decisions and activities that allocate the organization's resources (Cameron & Tschirhart, 1992).

(b) Decision processes – approaches used by managers and administrators to gather information, solve problems and make choices (Cameron & Tschirhart, 1992).

Input information or data – Information that precedes the educational and administrative processes such as availability of financial resources, community population trends and needs and student and employee preconceived perceptions (Borden & Banta, 1994).

(c) Process information or data– Information yielded from the educational and administrative processes such as faculty to student ratio, utilization of instructional support services and facilities and faculty and community attitudes toward students (Borden & Banta, 1994).

(d) Output information or data– Information derived from the results of the educational and administrative processes such as student transfer and job placement, employer satisfaction with student skills and economic impact (Borden & Banta, 1994).

(e) Objective information or data– Information in "hard" numeric form that is free from human judgement such as student enrollment numbers, faculty to student ratio, cost over expense ratios and institutional budget allocations (Whetten & Cameron, 1984).

(f) Subjective information or data– Information that is primarily made up of human perceptions such as interviews, focus groups, surveys and conversations (Whetten & Cameron, 1984).

Chapter 1 Summary and Study Overview

Chapter 1 provided an introduction and purpose of the current research project. The purpose of the current study was stated as to describe, compare and analyze the use of specific types of data utilized in decision-making by administrators of more and less effective public community colleges. In light of studies conducted in the past (Alfred, Ewell, Hudgins, & McClenney, 1999; Cameron, 1986; Child, 1975; Hambrick, 1983; Moore, 1986;

Zeiss, 1986; Bibeault, 1982; Meyer, 1979; Peters, 1987; Singh, 1986; & Rubin, 1978) it is reasonable to deduce that a relationship between data usage in decision-making and organizational effectiveness not only exists but is critical to the success of institutions of higher education especially given the turbulent environment in which the institutions exists.

Given the research related to the purpose of the current study and background of the issues surrounding the study's purpose, questions guiding the current research were also presented and identified as:

1. What data types do administrators of public community colleges use in decision-making?
2. Is the usage of specific data types by public community college in decision-making a covariant of organizational effectiveness?
3. Is there a difference between the data types administrators of more effective public community colleges use to make decisions and the data types administrators of less effective public community colleges use to make decisions?

Also included in Chapter 1 was a description of the assumptions and limitations of the current study. Finally, Chapter 1 concluded by provided definitions for the terms used throughout the current study.

In Chapter 2, a presentation of the relevant literature is provided. The literature review is presented in four sections. The first section of Chapter 2 will focus on organizational effectiveness as an indicator of institutional performance in the context of higher education. The second section will discuss the relationship between management strategies and decision-making and organizational effectiveness. The third section will explore the role of data usage in the decision-making process. Finally, the fourth section will provide a brief explanation and description of the typical structure and social context of community colleges.

Chapter 3 presents the current study's research design and research methodology. Chapter 3's discussion begins with a description of the study's participants. Next, a description of and presentation of support for the use of the survey instrumentation for data collection is provided which is followed by a discussion on the procedures used to carry out the data collection. Finally, Chapter 3 concludes with a description of the data analysis methods utilized in the current study.

Chapter 4 details the research results generated from the data collection and analysis. The research results include descriptive statistics, factor analysis, correlations and analysis of variance. Also included in Chapter 4 is a presentation of the ranking of participating community colleges according to effectiveness scores as well as a comparison of the data used for decision-making.

Chapter 5 presents an explanation for the results of the data analysis. Further, conclusions derived from the study's findings will be presented and the chapter will conclude with recommendations for future studies.

CHAPTER 2

LITERATURE REVIEW

Organizational Effectiveness

The construct of effectiveness has been debated for some time in higher education (Connolly, Conlon & Deutsch, 1980; Cameron & Whetten, 1983; Hannan & Freeman, 1977; & Nord, 1983). Cameron (1981) argued that effectiveness has no premise in objective reality because it is a construct. In Cameron's later writings he expands his argument saying, "empirically the construct of effectiveness is here to stay," (Cameron & Bilimoria, 1985, p. 101). In short, Cameron was saying that the construct of effectiveness is the product of the varying ideas of people and not a uniformly occurring phenomenon that can be objectively measured. On the other hand, the idea of effectiveness is so ingrained in our society that people demand organizations to provide effectiveness measures or they will substitute their own highly subjective and widely varying measures to assess organizations. Therefore, theorists, researchers and practitioners are forced to construct definitions and measures of effectiveness that are less subjective and more reliable and valid.

There exists no shortage of theorists and researchers defining the term "effectiveness". For example, Lewis and Smith (1994) defined effectiveness as an "output that conforms to customer requirements," (p.303). Sudit (1996) wrote, "effectiveness can be usefully conceptualized in terms of the degree to which production and delivery of products and services achieve end-objectives of the organization," (p.1). Smart and St. John (1997) defined effectiveness in higher education as a "function of how it (college or university) responds to external pressures in fulfilling its educational mission," (p.256).

For the purposes of the current study, effectiveness is broadly defined as "the extent to which an institution possesses the capacity to respond favorably to the needs and expectations of different constituencies," (Cameron & Tschirhart, 1992, p. 94). Cameron's definition of effectiveness is utilized in the current study for the following three reasons: a) Cameron's definition is broad enough in scope to encompass most if not all of the individual goals of our nation's community colleges nested under their virtually universal mission; b) Cameron's definition aligns well with the primary mission of community colleges at large, that is, to serve the community in which it resides; and c) Cameron's definition lies at heart of his survey instrument which the literature regarding the assessment of effectiveness in higher education recognizes as a primary evaluation tool for measuring the construct of effectiveness (Smart & St. John, 1996).

In the past it was argued that most of the studies focusing on organizational effectiveness have been inadequate to help understand the construct of effectiveness. Writers have criticized the literature on effectiveness, labeling it as in conceptual confusion (Connolly, Conlon & Deutsch, 1980) and in disarray (Nord, 1983). The truth is that numerous problems with assessing organizational effectiveness exist (Cameron & Whetten, 1983). Problems include approaches based on arbitrary models of organizations. That is, effectiveness is a product of individual values and preferences and therefore Cameron (1986) argues that the best criteria for assessing effectiveness cannot be identified. These problems, however, are theoretical and primarily the concern of researchers not of parents, students or the general public.

People are required to make judgements about the effectiveness of organizations as they choose which educational institution to attend or to send their children. When direct indicators are not readily available apparent indicators (e.g., condition of facilities) will be substituted. Put another way, individuals will always find a rationale for their judgements of effectiveness (Nisbet & Wilson, 1977) and those judgements may have little relationship to organizational performance or reality. Researchers, on the other hand, are reluctant to use arbitrary criteria of effectiveness and thus struggle to identify criteria that relate to organizational performance and that are reliably measured. Researchers analyzing organizational effectiveness often utilize criteria such as product output, product quality and defined goals.

Educational institutions, however, are often void or lacking in such criteria so researchers have turned to alternative measures and evaluations of performance. In 1981, Webster identified the six most prevalent methods of evaluating institutions of higher education. The most frequently used method for evaluating institutions of higher education was peer or expert ratings of reputation a practice that persists in the popular press to the present (e.g., U.S. News and World Report and Barron's Guide to the Best, Most Popular and Most Exciting Colleges). Although college rankings in the popular press have expanded their formulas to include other factors such as graduation rate and faculty to student ratios, greatest weight is still given to expert ratings of reputation (Morse & Flanigan, 2001). These ratings, however, are subject to time lag and halo effect. The problem with evaluation based on ratings of reputation can be illustrated by a study conducted in 1980 that asked senior human resource managers to rate the 12 best undergraduate business programs in America. Rated among the 12 best were Harvard, Stanford, Columbia, Chicago and Northwestern even though none of these institutions had an undergraduate business program (Webster, 1981). Other prevalent evaluation criterion of colleges and universities included faculty member counts, faculty honors and awards, student achievement after graduation, scores of entering students on national exams and institutional resources.

The major problem associated with each of the criteria identified by Webster is that they only apply to the few elite institutions in the country. The groups of institutions to which these criteria do not apply, make up over 95% of the colleges and universities in America (Cameron, 1986). These are the schools that do not strive for national rankings, that do not emphasize research and publication by the faculty; they may focus on serving the community, emphasize developing unprepared students to go on to universities, or prepare students for vocations. Colleges such as these include community and technical colleges, which account for 45% of all college undergraduates in the United States (Dykman, 1998). Without solid criteria for assessing effectiveness in these institutions, it is at best difficult to improve performance. In other words, if effectiveness is not defined and measured in a meaningful and relevant manner then an assessment cannot be properly done and improvement of effectiveness will be difficult.

It is important to note that Webster was not specifically researching methods of assessing the effectiveness of institutions of higher education per se. Webster was investigating the most popular and public forms of assessing colleges and universities in general. Webster's study illustrates Cameron's point that educational constituencies feel the need to evaluate their institutions in a singular and simple manner regardless of the organization's complexity and multiple measures of performance (Cameron & Whetten, 1983). The complexity of institutions of higher education renders these single assessment methods "insufficient in their conclusions," (Cameron & Smart, 1998, p.68).

Cameron (1986) proposed a more complex assessment of institutions of higher education that includes "considerations of multiple constituencies, environmental contingencies and the paradoxical nature of organizational performance," (p. 95). In 1980 Cameron developed 6 questions one needs to answer in order to construct an assessment that would measure the complex nature of effectiveness in organizations. The six questions are: (a) What domain of activity is being focused on (internal versus external activities)?; (b) Whose perspective, or which constituency's point of view is being considered (internal versus external constituencies)?; (c) What level of analysis is being considered (individual or organizational effectiveness)?; (d) What time frame is being used (short-term versus long-term)?; (e) What type of data are to be used (perceptual versus objective)?; and (f) What referent is being employed (comparative, normative, goal centered, improvement, or trait)? (p. 75). These questions led Cameron to the development of his organizational effectiveness assessment instrument (Appendix A).

Cameron and Whetten (1983) suggest that in a higher educational setting that has a degree of ambiguity regarding effectiveness criteria, the construct of effectiveness should be bound. Not all possible criteria and perspectives can be taken into account. Cameron (1986) published guidelines that help limit the scope of assessments and provide boundaries to the definition. The application of the guidelines to the current study will be discussed in the Chapter 3. Further, Cameron developed a method for assessing organizational effectiveness based on "nine dimensions of organizational effectiveness of higher education"(p. 92). The nine dimensions were identified as indicators of organizational effectiveness through several focus groups and over 50 interviews with college and university faculty, administrators and staff. The dimensions and instrument have been validated by a number of studies assessing effectiveness in higher education (for example, Cameron, B.J., 1989; Cameron, K.S., 1986; Giglioti, 1987; Kleeman, 1984; Rush, 1988; Smart, 1996). The nine dimensions are: (a) Student Educational Satisfaction, (b) Student Academic Development, (c) Student Career Development, (d) Student Personal Development, (e) Faculty and Administrator Employee Satisfaction, (f) Professional Development and Quality of the Faculty, (g) System Openness and Community Interaction, (h) Ability to Acquire Resources and (i) Organizational Health.

Summary of Organizational Effectiveness

In the organizational effectiveness section a definition of effectiveness was given and the problems with defining effectiveness in the context of higher education were discussed. In addition, the rationale for defining effectiveness for the purposes of the current study was given. Finally, dimensions for assessing effectiveness in institutions of higher education were outlined. The section that follows, discusses management strategies and decision-making and their importance in determining the effectiveness of institutions of higher education.

Management Strategies and Decision-making

It is important to consider management strategies and decision-making in the investigation of organizational effectiveness. The major theoretical models of organizational-environment relations all include management strategies and decision processes as key predictors of performance (for example, Bolman & Deal, 1997; Miles & Snow, 1978; Nadler & Tushman, 1988; Pfeffer, 1992; Pfeffer & Salancik, 1978). Almost every framework linking organizations to the environment takes into account management strategy as a central component and most identify decision processes as being extremely important (Nadler & Tushman, 1988). This is because strategy and decision-making are the primary tools organizations utilize to position themselves in the rapidly changing environment (Hamermesh, 1983).

In this context, management strategies are defined as the pattern of decisions and activities that allocate the organization's resources (Cameron & Tschirhart, 1992). Decision processes are the approaches used by managers and administrators to gather information, solve problems and make choices (Cameron & Tschirhart, 1992).

The Importance of Administrators

Strategies and decision-making processes that contribute most significantly to organizational effectiveness in institutions of higher education are assumed to originate with administrators. Evidence for this assumption is provided by Cameron's (1986) research studies in which he found that the strongest predictor of organizational effectiveness in institutions of higher education was administrative behavior. Further, Cameron (1986) summarized eight characteristics of effective administrators that emerged from the research, he and others conducted in past investigations (Cameron & Whetten, 1983; Chaffee, 1983).

The eight characteristics of effective administrators are as follows: (a) Place equal emphasis on process and outcomes; (b) low fear of failure – willingness to take risks; (c) nurture the support of strategic constituencies; (d) do not succumb to the tyranny of "legitimate demands" – distinguish between legitimate needs and strong demands for political purposes; (e) leave a distinct imprint – create a perception in others that the administrator is largely effective; (f) error in favor of over communication; (g) respect the power of organizational cultures; and (h) preserve and highlight sources of opportunity. The very brief findings are presented here to provide a link between the importance of administrators to the performance of their institution. These characteristics, however, are more appropriate for creating personal development plans of administrators or developing evaluation criteria for a campus president selection committee than for the current discussion. The real question for the current study is, if the effectiveness of administrators is a strong predictor of institutional performance what strategies are effective administrators employing and how do they make decisions?

A study was conducted by Cameron and Tschirhart (1992) in an attempt to discover "what management strategies and decision processes are effective in mitigating the expected negative effects of postindustrial environments on institutions of higher education," (p. 89). The study was based on a sample of 331 colleges and universities across the continental United States. Cameron and Tschirhart identified a method for categorizing the strategies employed in organizations and a method to categorize different types of decision processes in their study. A discussion of the methods and the results of the study are provided below.

Management Strategies

Several methods exist for categorizing the strategies employed in organizations (Chaffee, 1984; Miles & Snow, 1978; Porter, 1980). One method has been developed by Miles and Cameron (1982) for use in the tobacco industry and later applied to institutions of higher education by Cameron and Tschirhart (1992). The method identified three strategy types utilized by institutions of higher education. The first type is domain defense strategies, strategies protecting core activities, goals and customers of the organization. The second type is domain offense strategies, strategies that increase the core activities, goals and customers by initiating actions. The third strategy is domain creative activities, strategies adding related domains through activities such as innovation, diversification, or merger.

Decision-Making

The most common scheme to categorize decision processes, according to Cameron and Tschirhart (1992), is to identify the process in one of five ways: participative or collegial, rational, bureaucratic, political and organized anarchy. Chaffee (1984) describes the participative decision process as driven by consensus, rational decision process as driven by data, bureaucratic decision processes as driven by structured patterns, political decision processes as driven by conflict and power and organized anarchy decision process as driven by accidents.

Cameron and Tschirhart (1992) provided four conclusions resulting from their study: (a) Postindustrial environments have a negative effect on institutional effectiveness, namely, scarcity of resources, increasing competitiveness and turbulence; (b) management strategies were associated with institutional effectiveness and domain offensive strategies were most important; (c) participative decision processes in combination with political and bureaucratic decision processes were most effective in postindustrial environments; and (d) because the strategies and decision processes that are most effective in postindustrial environments are unlike typical managerial tendencies, hints may be needed from other literatures for smooth implementation.

Summary of Management Strategies and Decision-Making

Two important generalizations can be drawn from the study described above that relates directly to the current study. The first relates to managerial strategies. The domain offense managerial strategy implies that management should not react to events but instead anticipates opportunities and align the organization to expand (Cameron & Tschirhart, 1992). To anticipate opportunities and position the organization in the environment to take advantage of the institution's strengths, decisions must be made. The second then relates to decision processes. Participative decision processes are more effective because in a turbulent environment the need for a variety of sources of information and perspectives is increased (Cameron & Tschirhart, 1992). The question now becomes what information and perspectives should be taken into account by administrators to make effective decisions?

In this section the importance of the behavior of administrators, managerial strategies and decision-making process to organizational effectiveness were identified and discussed. Methods for categorizing management strategies and decision processes were identified. Results from a research study suggested that proactive management strategies (i.e., domain offensive strategies) and participative decision processes in combination with political/bureaucratic decision processes are associated with effective institutions of higher education. Finally, it was concluded that in order to employ proactive management strategies and participative decision processes, a variety of information sources and perspectives are needed. In this light, the section that follows explores the use of data (information and perspectives) in decision-making.

Data Usage in Decision-making

Central to both management strategies and decision processes are data. Without relevant, reliable and meaningful data management strategies and decision processes are left hollow and based in instinct. Good data then becomes a critical issue in creating an effective institution of higher education. The importance of data usage in decision-making has been recognized at the federal level with the creation of the National Postsecondary Education Cooperative (NPEC) in 1995. It was created "to promote the quality, comparability and utility of postsecondary data and information that support policy development, implementation and evaluation," and emphasize the need for "better decisions through better data," (NPEC, 1998).

Objective and Subjective Data

The first question that emerges when considering data usage in decision-making is what data are available? The two primary categories available to decision makers in institutions of higher education or any institution are objective and subjective data. Objective data are data that exist in "hard" numbers. Examples of objective data include student enrollment numbers, cost over expense ratios and faculty to student ratios. The advantages of objective data are that they are quantifiable, potentially less biased and represent the official position of the organization. The disadvantages of objective data are they are typically gathered on sanctioned criteria, used only for developing public image and do not tap into the perspectives of the institution's constituents (Whetten & Cameron, 1984).

Subjective data are primarily made up of the perceptions of the institution's constituents and are usually gathered through interviews, focus groups, or questionnaires. The advantages of subjective data are that they assess a broader array of criteria that cannot be tapped through objective data. The disadvantages of subjective data are that they are vulnerable to researcher and subject bias, dishonesty, or respondent's lack of information. In addition, these types of data are more at risk to problems with validity and reliability (Whetten & Cameron, 1984).

For the purposes of the current study, data will refer to both objective and subjective data unless otherwise noted. Both types of data are legitimate and necessary sources of information and perceptions in the decision-making process. Attention will now be focused on how data of both types are utilized in management strategies and decision processes.

Performance Indicators

The literature related to performance indicators provides a good foundation to explore how data have been and is used in decision-making in higher education. Put quite simply performance indicators are measures of how well something is being done (Borden & Banta, 1994). In this context performance indicators are different from simple statistics or other data in that the measures are specifically connected to goals or objectives and the measures are monitored to assess the performance of an organization. Although performance indicators are worthy of study and consideration, a full discussion of performance indicators is beyond the scope of the current study. Instead the literature related to performance indicators is used here as a conduit to explore how and what data are typically used in decision-making in higher education. Further the brief review of performance indicators will strengthen the ideological link between organizational effectiveness and the use of data in the decision-making process.

Borden and Banta (1994) reviewed the literature in search of the different methodological approaches for assessing institutional performance. Borden and Banta organized their findings into three categories: resource allocation, continuous process improvement or total quality management and outcome assessment. The resource allocation perspective highlights objective data such as the amount of money, time and human resources that are allocated to departments, projects or organizational units. The goal here is to maximize outputs or outcomes per unit of input. The next method, total quality management approach, emphasizes efficiency and effectiveness as primary goals and objectives are defined before the process begins. These methods focus on the use of subjective data such as customer satisfaction surveys that measure the quality of the process. The last method identified was outcomes assessment; these assessment methods are focused on the end results of the educational process, both outputs and outcomes. Data sources for this method include both objective data (student GPA, job attainment, time to degree completion) and subjective data (student satisfaction surveys).

Summary of Data Usage in Decision-Making

In theory, the methodological approaches for assessing institutional performance briefly presented above encompass the full spectrum of the educational process – input, process and output. In practice, institutions of higher education often end up focusing only on a single area. Institutions of higher education must focus on all three components of the educational process if it is to properly assess the organization and improve (Borden & Banta, 1994). If an institution of higher education can continually monitor its progress and use the resulting data to improve, the organization should become more effective.

For the purposes of the current study, the data utilized in decision-making are categorized as input data (e.g., financial resources, community population trends and needs and student preconceived perceptions), process data (faculty to student ratio, utilization of instructional support services and faculty attitudes towards students) and output data (student transfer and job placement, employer satisfaction with student skills and economic impact). Within the categories distinctions are made between objective and subjective data.

A broad categorization of data was selected over more specific schemata for two reasons. The first reason is because data and/or performance indicator selection for decision-making start with the specific theoretical principles and values of the decision maker and specific institutional goals and objectives and therefore will vary widely from one institution to the next (Ewell & Jones, 1994; Dolence & Norris, 1994). In other words, the use of specific data in decision-making may be a product of the unique characteristics and mission of the institution and by specifically categorizing data types (e.g., by organizational structural or functional units) assumptions about the characteristics and mission may be erroneously imposed on the organization.

Second, the current study is partially a descriptive study and intends to describe what data are used to make decisions not to connect institutional values (e.g., heavy dependence on financial data) with organizational effectiveness. Input, process and outputs are universal components of institutions of higher education and are thus void of assumptions related to specific institutional characteristics and values. Further, the components all include a wide variety of specific data types and sources however they are not compartmentalized. For example, inputs may include financial, community, faculty or student-oriented data. It is hoped that categorizing the data types in this manner will avoid erroneous conclusions for instance concluding that community colleges that rely heavily on financial data are more effective when what might actually have been measured was institutions that value financial frugality score higher on measures of effectiveness.

The discussion above uncovers an important component of effectiveness, managerial strategies, decision processes and data use in decision-making. The way in which an institution orients itself and functions in the environment through managerial strategies and decision-making processes is largely a function of the institution's history, organizational structure and mission. Although it is not the intention of the current study to investigate these aspects of higher education, a brief discussion of the historical and structural contexts in which community colleges operate are provided in order to highlight the complexities and sources of dispositions towards various managerial strategies and decision-making processes. This discussion is also important in order to recognize that strategies and processes employed in institutions of higher education do not occur in a box. That is, it is not enough to simply lay out a rationale for linking organizational effectiveness to the usage of data in decision-making without considering the historical context and organizational structure in which the institution exists. A discussion of the typical structure and historical context of the community college will potentially facilitate a discussion of the results of the current study and help formulate recommendations to decision-makers, policy makers and researchers. In short, the discussion will help frame the study in the environment in which it is actually taking place.

Historical Context and Organizational Structure of Community Colleges

The current section will briefly discuss community colleges from two perspectives. The two perspectives are the historical perspective and the structural/functional perspective. The historical perspective refers to the social and cultural events that led to and expanded community colleges and the structural/functional perspective refers to the current structural and functional components of typical public community colleges.

History of Community Colleges

The community college represents a unique educational institution in higher education. The reasons for the uniqueness of the community college lie embedded in its history. The history of the community college dates back to early in the twentieth century and several social factors contributed to its birth. Among the social factors were the demands for skilled workers in the expanding industries, the idea that high school graduates needed a longer period of time for maturation before entering adult life and the idea that social equity could be realized through access to higher education. The simplest overall reason for the expansion of community colleges was probably because of the multiple demands being placed on schools at every level to solve all of America's social and personal problems (Cohen & Brawer, 1991).

The community college movement began with rapid expansion of school-aged children in the early 1900s and resulting popularization of the idea among university leaders that universities should not concern themselves with the first two years post-secondary education. Instead of expanding existing services, the universities chose to focus on traditional scholarship and research. The result was the conversion of small universities and colleges and the extensions of secondary schools into junior colleges (Cohen & Brawer, 1991). Because junior colleges had been created outside the traditions of higher education it could expand from providing the universities transfer students to providing students with occupational training, servicing unprepared students and offering continuing education to the community at large. On the other hand it somewhat reduced the public's perception of community colleges to that of "alternative education" which persists to the present (Cohen & Brawer, 1991).

Community colleges expanded rapidly throughout the nation in the early and mid 1900's bringing higher education to communities that did not previously have access to publicly supported colleges. The colleges grew without state supervision or specific plans and were primarily an extension of the community, local legislation and the historical development of the colleges in general (Blocker, Plummer, & Richarson, 1965).

In a study conducted by Tillery and Deegan (1985), four stages of community college development were described. The first stage was between 1910 and 1930 when the colleges were primarily organized as outgrowths of secondary school districts. In the second stage, 1930-1950, the colleges were mainly created within local districts. Between 1950 and 1970, the third stage, community colleges were more often coordinated at the state level. The final stage, 1970 to the present (1985), community colleges were consolidated and the state assumed greater control of operations and funding.

The original various functions of the community college curricula have persisted to the present and include transfer of students to four-year colleges and universities, vocational education, continuing education, remedial education and community service. The primary focus of the community college has also remained unchanged, that is, meeting the needs of the community in which it resides (Cohen & Brawer, 1991).

Structural Organization and Administration of Community Colleges

The history of community colleges provides the context for their organization and administration. The missions and visions of most community colleges focuses on meeting the needs of the community including college bound students, adult learners, businesses and government agencies. Most organizations construct their organizational structure and administration in a way that facilitates the completion of the work to be done and thus to realize the organization's mission and vision. Community Colleges are no different, however, unlike private organizations, community colleges receive a good portion of their funding from the state in which it resides and therefore it is subject to state regulations, which influence the organization and administration of the college. Further, community colleges evolved from traditional educational institutions and thus retain many of their characteristics.

The basic organization of community colleges, like other institutions of higher education, include a chief executive officer (CEO) that is appointed by and acts in behalf of a board of trustees and some arrangement of administrators, faculty and staff. Academic departments are defined by group and divided by faculty members; budget categories are created identifying how resources were allocated and expended (Fryer & Lovas, 1991). The community college is typically organized hierarchically and agreements between faculty, administration and staff typically guide the direction of the institution (Cohen & Brawer, 1991). Multi-college districts are far more intricate, formalized and structured than single college districts and are coordinated by a central office (Cohen & Brawer, 1991). Other entities influencing the organization and administration of community colleges include state authorities, board of trustees and students. The role of each of these groups is described below. One of the primary foci of the current study is the information available to administrators for use in decision-making, therefore a brief description of the research department (a primary source of information) in community colleges will also be included.

The State

A state authority typically regulates publicly supported community colleges. A state ordinarily controls funding, program planning and dictates rules for many aspects of the college's functions from personnel to academic program requirements. On one hand, state involvement has led to more equitable funding between community colleges, uniform management and information systems, uniform data reporting and articulation agreements between community colleges, high schools and universities within a state (Cohen & Brawer, 1991). Some have argued that state coordination has made the community colleges less responsive to the needs of the local community (Tillery & Deegan, 1985). Further, state involvement has made the college leader's job more difficult by imposing demands for more sophisticated performance related data reporting, budget and personnel accountability and adherence to state regulations, policies and procedures (Kintzer, 1980).

The Board

The idea of installing a governing board in publicly supported community colleges is to provide a link between the community and college. Ideally, the board would help translate the needs of the community into educational practice and policy. Boards traditionally are made up of five to nine members elected from the district for four-year terms and meet once a month. Responsibilities of a board include hiring, evaluating and firing the CEO; ensuring proper management of the college; screening major purchases and proposed changes; public relations; evaluating organizational performance; and defining the mission of the college (Cohen & Brawer, 1991).

The Administration

In general, the CEO of a community college engages in general administrative and leadership duties and meets periodically with the institution's board and with state agency heads. A major responsibility of the CEO is to raise funds for the institution. Other duties include personnel recruitment and selection, public relations and facilitating relationships between the college and other educational entities (Cohen & Brawer, 1991). According to the Occupational Outlook Handbook (U.S. Department of Labor, 2000) the primary responsibility of the CEOs employed by institutions of higher education is to formulate policies and direct the operations of the organization. This includes setting educational standards and goals and establishing policies and procedures to carry them out. In short, the CEO is charged with the task of ensuring smooth operation of the institution by providing leadership and direction.

Deans typically manage the various organizational divisions such as the business office, student affairs, academic instruction and continuing education (Cohen & Brawer, 1991). The primary duties of deans include assisting the CEO, developing budgets and academic policies and programs and directing the activities of department chairs (Department of Labor, 2000).

For the most part, the department chairs report to the dean of instruction (Cohen & Brawer, 1991). Duties of department chairs include teaching, coordinating class schedules, assigning faculty to classes, hiring and evaluating faculty and balancing the concerns of administration, faculty and student body (Department of Labor, 2000).

The Faculty

As the size and offerings of community colleges grew so did the distance between college employees and the bureaucracy and institutional policies, regulations and procedures. Transformation continued as community colleges expanded course and program offerings to include career education, adult basic education, compensatory programs and administration's drive to recruit and retain apathetic students. Faculty reacted, left feeling betrayed by the changes, and began organizing and obtaining collective bargaining agreements resulted. In brief, the contracts increased faculty financial well being, solidified their primary role as teachers, bound faculty to self-imposed rules and increased the bureaucratic nature of the community college (Cohen & Brawer, 1991). The primary role of community college faculty is to teach; rarely do they conduct academic research (Cohen & Brawer, 1987).

The Students

In the 1960s and 1970s community colleges popularized higher education and became the entry point for many first time students. By the 1970s 40% of all first time freshmen and 67% of all minorities were enrolled in community colleges. Further, community colleges enabled universities to sustain selective admissions criteria allowing universities to take only the students they wanted (Cohen & Brawer, 1991).

Community colleges, having swung their doors wide open, have increased access to higher education for women and minorities. In 1986 37% of all students enrolled in higher education attended community colleges and by 1987 women accounted for 53% of all students enrolled in community colleges (Cohen & Brawer, 1991). Today, community colleges enroll 47% of all first-time freshmen students, 42% of all African-American students, 55% of all Hispanic students and 40% of all Asian or Pacific Islander students (Dykman, 1998). Further, the community college student body tends to reflect the population of the community in which it resides more so than do universities (Cohen & Brawer, 1991).

The Research Department

The demands for the community college to gather, organize, analyze and report information led to the creation of research departments in community colleges. The demands include grant requirements, state and federal program funding requirements and public accountability. The research department typically produces periodic reports primarily focusing on students (e.g., enrollment trends, student characteristics and follow up studies). Further, research departments follow institutional priorities and concerns of the college. The priorities and concerns of community college have expanded to include institutional accountability for student outcomes, attracting more students to the institution (conducting needs assessments and marketing studies) and demonstration of institutional effect (Losak, 1986).

Summary of Historical Context and Organizational Structure of Community Colleges

The section above briefly outlined the history of community colleges, which included the social context in which it developed. The section also briefly described the typical structural and functional components of community colleges, which include the student body, faculty, administration, governing boards and state involvement. The typical model of organizational structure in community colleges was identified as the bureaucratic and political models. Finally, a brief summary of the emergence of research departments as well as its role in community colleges was given.

It can be clearly seen through the above discussion that decision-makers in community colleges have a complex environment to navigate in order to make good decisions and help the organization become more effective. The management strategies employed by administrators in institutions of higher education were described earlier in this review. The bureaucratic and political models appear to be most applicable to community college administrators. It is easy to see how relevant and reliable information might get neglected in an organizational structure embedded in a bureaucratic and political quagmire. On the other hand, it would be naïve to think a successful community college administrator, president, or faculty chair could rely solely or even primarily on cold data to make day to day decisions. The fact of the matter is that decision-makers in community colleges must rely on both objective and subjective information as well as social and political intelligence to make good decisions and thus to aid the organization in achieving success. The focus of the current study is the objective and subjective information (data) side of the decision-making equation in community colleges.

Chapter 2 Summary and Conclusions

In Chapter 2 a review of the literature relevant to the current study was presented. The review included the exploration of the concept and construct of organizational effectiveness and linked organizational effectiveness to management strategies and decision-making. The chapter further defined and described the types of data available to decision makers to aid them in their decision-making process and provided an overview of the history and organizational structure of community colleges. Finally, Chapter 2 broadly described the community college's student population and described the community college's typical research department.

A wide variety of studies have investigated the relationship between decision processes and effectiveness (for example, Bibeault, 1982; Meyer, 1979; Peters, 1987; Singh, 1986; Rubin, 1978). No study identified by the current researcher, however, has attempted to link effectiveness to the use of specific data in decision-making. Linking effectiveness and the types of data used by community college administrators is extremely important because "the success or failure of any community college today depends primarily on the ability of its top-level leadership to make valid, efficient and effective decisions, decisions based on pertinent and reliable research data," (Zeiss, 1986, p. 35).

Most community college decision-makers already have a plethora of data available to them via their research department and among other sources. In fact, administrators have much of the data necessary to make effective decisions and to contribute to the success of their organization (Moore, 1986). Often, however, the data are scattered throughout the organization (having been collected by different departments for different reasons), underutilized (lack of time), lost in volumes of unanalyzed numbers, or simply ignored.

The results of the current study will help clarify what data are used by administrators of effective community colleges to make decisions. This study will further allow administrators of community colleges to reevaluate their strategy of using data and/or the data they use to make critical decisions and improve the effectiveness of their institutions. The ability of administrators to make good decisions in the extremely volatile and competitive environment of today is quite possibly the most important determining factor in the success or failure of an educational institution. If the data used to make critical decisions are not the right data or erroneous then the decision will be flawed regardless of the process. The current study will help further our efforts, as educational practitioners, to make solid decisions and contribute to the success of our institutions and the industry of higher education in general.

Kim Cameron (1986) developed one model for identifying effective colleges and universities, Cameron's model has also been validated for use by community colleges (Giglioti, 1987). In the current study a survey instrument based on Cameron's model was used to identify a sample of more effective and less effective community colleges in the Midwest and California. Having identified these institutions, the decision-makers were surveyed to identify the data they use to make decisions. Finally, the data used to make decisions by more effective and less effective community colleges is described, compared and statistically analyzed.

In Chapter 3 the current study's research design and research methodology will be presented. The discussion begins with a description of the study's participants. Next, a description of and presentation of support for the use of the current study's instrumentation for data collection is provided, followed by a discussion on the procedures used to carry out the data collection. Finally, Chapter 3 concludes with a description of the data analysis methods utilized in the current study.

CHAPTER 3

DESIGN AND METHODOLOGY

The research design and research methodology of the current study is described in Chapter Three. The purpose of the current study is to describe, compare and statistically analyze the use of specific types of data utilized in decision-making by administrators of more effective and less effective public community colleges. The current study attempts to explore the relationship, if any, between organizational effectiveness as described and defined by Cameron (Cameron & Tschirhart, 1992) and the data used by administrators of public community colleges to make decisions.

Participants

The participants for the study were drawn from a convenience sample. Convenience sample is defined as "a group of subjects selected on the basis of being accessible or expedient," (McMillan & Schumacher, 1997, p. 169). The current study is an exploratory investigation of the relationship between the information utilized in decision-making and organizational effectiveness in community colleges as a result a convenience sample was necessary. The conclusions of the current research project will result in recommendations for a more comprehensive study and methodology. The community colleges represented in the sample were coded to ensure confidentiality and are described in Table 1 in order to aid in the generalization of the findings. The information presented in Table 1 was obtained from the National Center for Educational Statistics, Higher Education Directory 19th Edition (2001) and participating community colleges' web sites.

Table 1

Community College Characteristics

College Code	Student Enrollment	Full Time Faculty	Average Annual In-District Tuition	Single-Campus College	Multi-Campus College
1	24,467	305	$396		X
2	2,500	28	$1,550		X
3	16,000	204	$264		X
4	6,782	77	$319		X
5	11,750	191	$1,470	X	
6	16,072	266	$1,440	X	
7	5,772	97	$1,290	X	
8	6,447	80	$1,696		X
*9	65,197	817	$327		X
10	5,000	60	$1,590		X
*11	19,141	268	$1,592		X
12	9,143	157	$1,590	X	
13	5,164	100	$1,530		X
14	17,948	231	$330		X
15	5,565	69	$1,500	X	
16	6,456	120	$1,260		X
17	14,077	184	$1,008		X
*18	27,578	428	$1,134		X
Mean	14,474.86	212.16	$1,127		

Note. *Community college district office

Enrollment, faculty and tuition were calculated by averaging colleges making up the college district.

The participants for the current study are drawn from 12 public community colleges and 2 community college district offices located in the Midwest and 4 community colleges and 1 community college district office located in California. The total number of community colleges and district offices utilized for the current study were 19, representing 4 states, 3 major metropolitan areas including urban and suburban locales and 2 rural communities.

Seventy participants were identified in the selected community colleges and districts through the Higher Education Directory (2001). Fifty of the identified individuals returned survey packages yielding a response rate of 71%. The participants' gender, occupational titles, state of origin, number of years in current positions and total years of experience in higher education are provided in Table 2. The names of the college districts, individual colleges and participants will remain confidential.

Table 2

Participant Demographics

	Frequency	Percentage	Mean	Standard Deviation
Gender				
Male	31	62%		
Female	19	38%		
State of Origin				
California	11	22%		
Illinois	8	16%		
Kansas	9	18%		
Missouri	22	44%		
Job Title				
Chancellor	2	4%		
Vice Chancellor	6	12%		
President	11	22%		
Vice President	20	40%		
Dean	11	22%		
Years in Position			6.74	5.44
0-3	16	32%		
4-6	11	22%		
7-9	11	22%		
10-12	5	10%		
>12	7	14%		
Years in Education			25.55	7.48
0-8	1	2%		
9-16	4	8%		
17-24	14	28%		
25-32	23	46%		
>33	8	16%		
Participant Total	50			

At each of the selected institutions, data were obtained from the principal decision-makers typical of most community colleges. That is, the chief officer of the college district and/or individual colleges and his/her direct administrative reports (e.g., vice chancellor, vice president, high level deans, business manager, etc.). The participants for the current study were identified for each of the community colleges on a case by case basis by primary occupational duties as identified through the Higher Education Directory (2001), colleges' web site and by telephone calls made to the institution in question. In general, the CEO of a community college was identified as the person primarily responsible for formulating policies and directing the operations of the organization. Duties of the CEO include setting educational standards and goals and establishing policies and procedures to carry them out. In short, the CEO is the individual charged with the task of ensuring smooth operation of the institution as a whole by providing leadership and direction (Department of Labor, 2000).

Direct reports of the CEO were identified as those (typically deans, vice-presidents, etc.) primarily responsible for managing the various organizational divisions such as the business office, student affairs, academic instruction and continuing education (Cohen & Brawer, 1991). The primary duties of CEO direct reports include assisting the CEO, developing budgets and academic policies and programs and directing the activities of department chairs (Department of Labor, 2000).

Instrumentation

An organizational effectiveness survey and decision-making survey were utilized as the measurement instrumentation for the current study. The organizational effectiveness survey was used to identify the degree of effectiveness of the selected community colleges and was constructed by Kim Cameron in 1978 (see Appendix A). The organizational effectiveness questionnaire consists of items identified by members of a coalition of college and university educational experts as indicating organizational effectiveness in colleges and universities. In interviews, the members were asked to identify characteristics that are typical of effective institutions with which they were familiar (Cameron, 1978). The organizational effectiveness survey instrument measures the organizational effectiveness of colleges and universities through the perceptions of faculty, administrators and trustees. The survey is made up of 57 items and divided into three sections. The survey asks participants to describe their institution and provide their perception regarding their institution through the use of seven point Likert-type scales. The organizational effectiveness measure yields a mean score for each of the nine dimensions of effectiveness as identified below.

The organizational effectiveness instrument provides an index of effectiveness for the institutions in the sample. The construct that the organizational effectiveness instrument attempts to measure is "organizational effectiveness". The organizational effectiveness survey's focus is on "the extent to which an institution possesses the capacity to respond favorably to the needs and expectations of several different constituencies" (Cameron & Tschirhart, 1992). The constituencies referred to, are made up of internal constituencies such as students, faculty and administrators and external constituencies in the community including employers and parents. More specifically, the organizational effectiveness instrument measures critical characteristics of college and university performance. Nine different dimensions of effectiveness result from the organizational effectiveness survey's

57 items. The nine dimensions are: (a) Student Educational Satisfaction, (b) Student Academic Development, (c) Student Career Development, (d) Student Personal Development, (e) Faculty and Administrator Employee Satisfaction, (f) Professional Development and Quality of the Faculty, (g) System Openness and Community Interaction, (h) Ability to Acquire Resources and (i) Organizational Health (see Appendix A). Cameron's effectiveness survey was slightly modified to remove any references to four-year institutions of higher education (Appendix B).

The organizational effectiveness survey instrument has been used in various studies of four-year colleges, universities and community college effectiveness (for example, Cameron, B.J., 1989; Cameron, K.S., 1986; Giglioti, 1987; Kleeman, 1984; Rush, 1988; Smart, 1996). Internal reliability and validity of the effectiveness measure has been confirmed in each study without exception. For example, in 1986 Kim Cameron conducted a study where internal consistency reliabilities for the nine dimensions ranged from 0.72 to 0.92 with mean reliability coefficient of 0.82. Further, Cameron performed a factor analysis (orthogonal rotation) of the 57 effectiveness questionnaire items resulting in the items for each dimension loading on their own factors. Average intercorrelation among the nine dimensions was 0.42 indicating that certain dimensions do vary together in ratings of effectiveness (see Cameron 1981 for an analysis of the interdimensional covariance). Today the literature regarding the assessment of effectiveness in higher education recognizes Cameron's instrument as a primary evaluation tool for measuring the construct of effectiveness (Smart & St. John, 1996).

Mean scores for the nine organizational effectiveness dimensions are calculated, added together and divided by the total number of categories to determine overall effectiveness for each of the participating 19 community colleges and district offices. The three categories of effectiveness previously described and the overall effectiveness score are used in the data analysis. For descriptive purposes, the effectiveness survey instrument was used to rank order participating institutions according to the overall score and the top 33.3% were described as highly effective while the bottom 33.3% were described as least effective. The organizational effectiveness survey was administered to the sample of community college administrators participating in the study.

The decision-making survey instrument was constructed to determine the data community college chief officers and direct administrative reports have available to them and are most likely to use in making decisions. Construction of the decision-making survey was accomplished by conducting open-ended structured interviews with five former community college chief officers (presidents and chancellors) in the Midwest.

The interview protocol for the development of the decision-making survey was structured. The phenomena being studied is known, that is, it is known that data and other information are used by administrators of community colleges to make decisions, as a result the decision-making interview protocol was structured. Since the phenomenon is known, the interview can be structured to focus the interview questions to extract the desired information.

An open-ended interview format was utilized because no established decision-making survey instrument could be identified and only a small sample (n=5) of key informants was available. Because no established instrument could be identified, the interview questions were open-ended to allow for a interview process that is open to "unsuspected phenomena" through the use of some "orienting questions" (Miles & Huberman, 1984, p. 42). In addition, open-ended interview questions were used for the additional reason that the decision-making survey construction portion of the research project was exploratory as opposed to confirmatory. Therefore the need for a rigid interview structure is lessened (Miles & Huberman, 1984). The sample size for developing the survey was small (n=5) thus cross-case comparison was limited and the need for strict standardized instrumentation was minimized (Miles & Huberman, 1984).

Key informants were utilized to gather and interpret the study's initial data therefore the interview sample was small (n=5). Gilchrist (1992) gives two reasons why key informants should be utilized for exploratory data collection in research such as the current study. The first reason is "pragmatic limits" (p. 77). Access to subject matter experts and available resources were limited, therefore large numbers of retired community college presidents could not be interviewed. Consequently, it is more advantageous to use a few trusted key informants in order to more adequately "understand the limits of their information based on who they are and develop a relationship with them to ensure the richness of that information," (p. 77). Second, key informants can provide access to information the researcher would otherwise not have available and key informants can become collaborators in the research. The subjects chosen for the development of the decision-making survey were retired presidents of community colleges. Retired presidents were chosen for the sample of key informants. The retired presidents would be more likely to provide candid and honest information without fear of repercussions from their former employers thus reducing subject contamination.

The decision-making interviews were tape recorded and transcribed for analysis. Tape recordings were utilized for two reasons as identified by Silverman (2000). First, tape recordings were used to ensure greater accuracy of the information gathered than can be achieved through memory or note taking. Second, the tapes and transcripts can be used in future studies in a way that notes cannot.

The decision-making interview format was constructed by the researcher and reviewed by a faculty member specializing in higher education. The decision-making interview was open-ended and followed a structured format (Appendix C). In the decision-making interview, participants were asked to identify critical decisions typically encountered by high-level community college administrators. Further, participants were asked to describe the data typically available to high-level community college administrators in making each of the different critical decisions the participant identified.

The critical decisions identified through the decision-making interviews were aggregated and categorized by the researcher and reviewed by three independent raters (university faculty and practitioners of educational administration in higher education) (Appendix D). The four critical decision-making categories identified were (a) personnel related decisions, (b) board of trustees or district office related decisions, (c) community related decisions and (d) facility related decisions. The data typically available for critical decision-making identified by the participants were aggregated and categorized as input, process, or output data and subcategorized as objective or subjective data as previously described (p.16), by the researcher. The same three independent raters identified above reviewed the resulting data type aggregates and categories (Appendix E).

The most frequently cited critical decision-making situations and data categories used to make critical decisions were used to create the decision-making survey. The decision-making survey presents participants with the identified critical decision-making situations and each situation is accompanied by the identified types of data available for use in making the decision. Participants were asked to choose the one source of data presented that they would be most likely to utilize given the presented decision-making situation. The decision-making survey is presented in Appendix F.

Procedure

Postal and e-mail addresses were identified through the colleges' web sites. E-mails were sent to each of the 70 potential participants informing them of the purpose of the current study and that they would be receiving the surveys in the next few days (Appendix G). The organizational effectiveness survey, decision-making survey, a cover letter (Appendix H) explaining the current study and requesting participation and a postage paid envelope were mailed to the selected 70 community college chief officers and direct administrative reports. The cover letter provided potential respondents with a brief explanation of the current study, statement ensuring their personal and institutional confidentiality, request for participation and statement requesting them to complete the organizational effectiveness and decision-making surveys and return them to the sponsoring institution. After 10 days follow-up e-mails were sent to those who did not respond, again requesting their participation.

Data Analysis

The returned organizational effectiveness and decision-making surveys were coded and entered into the Statistical Package for the Social Sciences (SPSS) version 10.0 for descriptive and inferential statistics. The data were examined for outliers and data entry errors. Data integrity tests were conducted to assure data quality. Descriptive statistics, reliability and internal consistency (factor–analysis) measures were calculated for the organizational effectiveness and decision-making surveys. If the resulting variable(s) were determined to have integrity they were included in the data analysis. The inferential statistical analysis used multivariate analysis. An analysis of variance was performed on the resulting variables. Confidentiality of all participants and institutions was maintained throughout the analysis of the data.

The effectiveness survey descriptive results were used to rank order the sampled community colleges from most effective to least effective. Ranking was accomplished by consolidating ratings from individuals employed by the same community college or district office and generating an overall mean scores for each of the 19 community colleges and district offices. The created college ranking continuum was divided into three categories based on rank: a) effective (top 33.3%), b) marginally effective (middle 33.3%) and c) ineffective (bottom 33.3%).

The decision-making descriptive survey results were used to calculate the frequency of data types used by the participating community college administrators. The calculations were accomplished by consolidating data type usage frequencies from individuals employed by the same community college or district office. The calculations generated overall data type usage frequency scores for each of the 19 community colleges and district offices.

Chapter 3 Summary

In Chapter 3 the research design and research methodology utilized for the current study were described. Selection procedures and criteria for the participants in the current study were outlined as were the participants' demographics and community colleges' characteristics. Cameron's organizational survey instrument and analysis procedure was described. The construction procedure, construction procedure results and final decision-making survey instrument utilized in the current study were also described. Finally, the data analyses procedure for the data collected from the organizational effectiveness and decision-making surveys were presented.

CHAPTER 4

RESULTS

The purpose of the collection and analysis of the organizational effectiveness and decision-making survey data was to attempt to answer the following questions:

1. What data types do administrators of public community colleges use in decision-making?
2. Is the usage of specific data types by public community college in decision-making a covariant of organizational effectiveness?
3. Is there a difference between the data types administrators of more effective public community colleges use to make decisions and the data types administrators of less effective public community colleges use to make decisions?

Hence, the purpose of the current study is to describe, compare and statistically analyze the use of specific types of data utilized in decision-making by administrators of more effective and less effective public community colleges. The results of the data analysis will be presented in the current chapter. Interpretation of the results will be submitted in Chapter 5.

Organizational Effectiveness Survey

Mean, median and standard deviation were calculated for all items contained in the organizational effectiveness survey (Appendix I). The results of the descriptive analysis data indicated that the majority of items were normally distributed. Reliability analysis yielded an alpha of .69 denoting an acceptable internal consistency.

A factor analysis was performed using SPSS's Principal Analysis Function to reduce the organizational effectiveness survey data. A total of five factors were extracted from the data (Eigen value 1.0) and given descriptive labels by the researcher according to the survey items making up each factor. The organizational effectiveness factors are defined in Table 3 and will be utilized for all remaining organizational effectiveness survey data analysis. The five organizational effectiveness factors accounted for 47% of the total variance (Appendix K). Appendix L presents the summary results of all varimax rotated loadings. A correlation matrix of the five organizational effectiveness factors is provided in Appendix M that verifies the factors' independence ($p<0.05$).

The five organizational effectiveness factors identified in the current study did not align with Cameron's nine dimensions of organizational effectiveness. The lack of alignment between Cameron's nine dimensions and the five organizational effectiveness factors identified in the current study was potentially due to the study's relatively small sample size (n=50). The five factors however did cluster around logical themes including some significant alignment with Cameron's dimensions.

Table 3

Organizational Effectiveness Survey Factors

Resulting Variable	Cameron's Dimension	Survey Item Number
Employee Satisfaction (Factor 1)	Faculty and Administrator Employee Satisfaction	31, 32, 33, 34, 35, 36
	Organizational Health	45, 48, 49, 50, 52, 54, 56
	Ability to Acquire Resources	5
	System Openness and Community Interaction	18
Community Interaction and Service (Factor 2)	Student Career Development	20, 26, 27, 29, 30
	System Openness and Community Interaction	3, 22, 23
	Ability to Acquire Resources	4, 7
Student Focus (Factor 3)	Student Personal Development	2, 17, 21
	Student Educational Satisfaction	11, 12
	Student Academic Development	13, 16
	Organizational Health	44, 53
	Student Career Development	28
	System Openness and Community Interaction	19
Institutional Excellence (Factor 4)	Student Educational Satisfaction	8, 9, 10
	Professional Development and Quality of Faculty	24, 40

(table continues)

Resulting Variable	Cameron's Dimension	Survey Item Number
	Student Academic Development	25
	Ability to Acquire Resources	6
	Organizational Health	43
Employee Development (Factor 5)	Organizational Health	46, 47, 51, 55
	Professional Development And Quality	37, 41

Decision-Making Survey

Frequencies were calculated for categorical items contained in the decision-making survey and mean, median and standard deviation were calculated for the scaled items (Appendix J). The results of the descriptive analysis data for the scaled items indicated that the items were normally distributed. Reliability analysis performed on the scaled items yielded an alpha of .80 denoting an excellent internal consistency.

A factor analysis was performed using SPSS's Principal Analysis Function to reduce the decision-making survey data. A total of seven decision-making factors were extracted from the data (Eigen value 1.0) and given descriptive labels by the researcher according to the survey items making up each factor. The decision-making factors are defined in Table 4 and will be utilized for all remaining decision-making survey data analysis. The seven decision-making factors accounted for 46% of the total variance (Appendix N). Appendix O presents the summary results of all varimax rotated loadings. A correlation matrix of the seven decision-making factors is provided in Appendix P, which verifies the factors' independence ($p<.05$).

Table 4

Decision-Making Survey Factors

Resulting Variable	Survey Category	Survey Item Number and Response
Decisions related to meeting the needs of critical constituents (data used: recommendations and conversations with constituents) (Factor 1)	Personnel Related Decisions	2a(c), 2b(c), 2c(c) 3(c), 3(d)
	Board of Trustees or District Office Related Decisions	2b(a), 3a(b), 3b(a)
	Community Related Decisions	3(c)
	Facility Related Decisions	1(d)
Decisions related to influencing college financial expenditures and income (data used: formal studies and reports) (Factor 2)	Board of Trustees or District Office Related Decisions	1(a), 1(b), 1(d)
	Community Related Decisions	1(a), 1(b)
	Personnel Related Decisions	1(b), 1(c)
	Facility Related Decisions	2b(c)
Decisions related to institutional resource allocation and strategic direction (data used: formal studies and conversations with constituents) (Factor 3)	Facility Related Decisions	2a(d), 2b(a), 2b(d), 3a(a), 3a(d), 3b(a) 3(b)
	Board of Trustees or District Office Related Decisions	2a(c), 2b(a)

(table continues)

Resulting Variable	Survey Category	Survey Item Number and Response
Decisions related to implementing mandates, recommendations and decisions (data used: subjective studies of past outcomes) (Factor 4)	Board of Trustees or District Office Related Decisions	3a(a), 3a(b), 3b(c)
	Facility Related Decisions	2a(c), 3a(b), 3b(b)
	Community Related Decisions	1(d)
Decisions related to hiring, firing, and promoting employees (data used: subjective information on past employee performance) (Factor 5)	Personnel Related Decisions	1(d), 2b(a), 2b(b), 2c(a), 2c(b)
	Community Related Decisions	3(a)
Decisions related to meeting the needs and influencing the external community (data used: formal studies of internal and external community) (Factor 6)	Community Related Decisions	2(c), 2(d), 3(b), 3(c)
	Facility Related Decisions	1(a), 1(c), 2a(b)
	Board of Trustees Or District Office Related Decisions	2b(d)
Decisions related to college climate 3(b) and culture (data used: recommendations and conversations with constituents) (Factor 7)	Personnel Related Decisions	2a(a), 2a(b), 2(c),
	Board of Trustees Or District Office Related Decisions	3b(b)

Community College Ranking

The participating community colleges were rank ordered according to the overall mean score resulting from the organizational effectiveness survey data as shown in Table 5. The overall mean score or grand mean was calculated by consolidating the scores of all administrators by college for each organizational effectiveness survey question. Next, averages for the resulting college effectiveness survey question scores by organizational effectiveness survey factor (as produced through factor analysis) were produced. Finally, organizational effectiveness grand mean was produced by averaging the factor scores.

Table 5

Community Colleges Ranked by Organizational Effectiveness Grand Mean

College Rank	College Code	Factor 1 Employee Satisfaction	Factor 2 Community Interaction	Factor 3 Student Focus	Factor 4 Institutional Excellence	Factor 5 Employee Development	Grand Mean
1	14	4.90	5.50	5.45	4.56	3.75	4.83
2	6	4.37	6.30	4.85	4.35	3.20	4.61
3	5	4.09	6.00	4.94	4.29	3.17	4.50
4	7	4.30	5.45	4.93	3.91	3.88	4.49
5	18	4.20	5.15	4.73	3.63	4.67	4.48
6	4	4.47	4.30	4.91	4.25	4.17	4.42
7	16	4.80	4.90	3.64	4.25	4.17	4.35
8	12	4.25	5.69	4.65	3.73	3.20	4.30
8	13	4.29	5.07	4.24	4.08	3.83	4.30
9	1	4.38	5.00	4.54	4.29	3.06	4.25
10	15	4.04	5.07	4.50	4.00	3.56	4.23
10	17	4.50	5.20	4.64	3.13	3.67	4.23
11	11	4.39	5.38	4.29	3.75	3.30	4.22
12	10	4.63	5.20	5.00	3.50	2.67	4.20
13	9	4.47	5.13	4.76	3.50	2.67	4.11
14	8	4.10	4.73	4.36	3.54	3.28	4.00
15	2	4.23	3.65	4.90	3.44	3.58	3.96
16	3	3.80	4.95	3.95	2.88	2.92	3.70

Data Used by Community College Administrators

Six types of data available for administrators of community colleges to help make decisions were described earlier in the current study. The data types are categorized as input objective, input subjective, process objective, process subjective, output objective and output subjective. The decision-making survey requested participating administrators to indicate which sources of presented data they would be most likely to utilize given the presented decision-making situation. Table 6 presents the frequency at which participating administrators as a group chose decision-making survey response items coded as one of the six data types. Appendix Q presents the frequency at which administrators chose decision-making survey response items coded as one of the six data types by college according to critical decision-making category (see p. 46).

Table 6

Data Type Usage by Frequency

Data Used in Decision-Making	Data Used in Decision-Making By Frequency	Data Used in Decision-Making By Percentage
Output Objective	205	24%
Process Subjective	150	18%
Input Subjective	146	17%
Input Objective	142	17%
Process Objective	108	13%
Output Subjective	99	12%
Total	850	101%

Note. Total percentage sums to 101% due to rounding error.

Community College Effectiveness Ranking and Data Used in Decision-Making

The participating community colleges were rank ordered according to organizational effectiveness grand mean score and divided into three groups according to rank. The three groups are the highest scoring 33%, the middle scoring 33% and the bottom scoring 33%. The groups are labeled most effective, moderately effective and least effective respectively.

The frequency of data types used by participating administrators was calculated for each of the community colleges. Appendix R presents overall data type frequency by organizational effectiveness ranking. Table 7 shows the data type frequency by the most effective community colleges and Table 8 shows the data type frequency by the least effective community colleges.

Table 7

Most Effective Colleges and Data Type Frequency

Data Used in Decision-Making	Data Used in Decision-Making By Frequency	Data Used in Decision-Making By Percentage
Output Objective	83	28%
Input Objective	59	20%
Process Subjective	51	17%
Input Subjective	45	15%
Process Objective	36	12%
Output Subjective	23	8%
Total	297	100%

Table 8

Least Effective Colleges and Data Type Frequency

Data Used in Decision-Making	Data Used in Decision-Making By Frequency	Data Used in Decision-Making By Percentage
Output Objective	63	23%
Input Subjective	54	20%
Process Subjective	50	18%
Output Subjective	40	15%
Input Objective	38	14%
Process Objective	29	11%
Total	274	101%

Note. Total percentage sums to 101% due to rounding error.

Analysis of Variance Organizational Effectiveness Survey

Running the General Linear Model in the SPSS computer program completed the analysis of variance. First, participant demographic effects (gender, job title, years in position and years in education) and college demographic effects (campus type, college enrollment and number of faculty) were tested for the organizational effectiveness survey. Results of the analysis (see Table 9) indicated significant differences ($p<.05$) for job title, years in position, years in education, college enrollment and number of faculty.

Next, the five factors identified in the organizational effectiveness survey data were run against the participant demographics and college characteristics for between-subjects effects. Results of the analysis identified significant ($p<.05$) differences in number of faculty and Factor 1 (Employee Satisfaction), job title and Factor 1 (Employee Satisfaction) and Factor 4 (Institutional Excellence), gender and Factor 3 (Student Focus), years in position and Factor 1 (Employee Satisfaction) and Factor 3 (Student Focus), and years in education and Factor 1 (Employee Satisfaction) and Factor 3 (Student Focus). These results are presented in Table 10.

Table 9

Organizational Effectiveness Survey Analysis of Variance – Multivariate Test*

Effect	F	Significance (p<.05)
Enrollment	6.514	.030
Number of Faculty	26.347	.001
Campus Type	1.419	.355
Job Title	4.121	.018
Gender	2.997	.127
Years in Position	2.415	.034
Years in Education	2.763	.018

Note. *Wilks' Lambda

Table 10

Organizational Effectiveness Survey Analysis of Variance – Test of Between-Subjects Effects

Source	Dependent Variable	F	Significance (p<.05)
Enrollment	Factor 1	.156	.702
	Factor 2	.289	.604
	Factor 3	1.845	.207
	Factor 4	1.176	.306
	Factor 5	1.808	.212
Number of Faculty	Factor 1	29.927	.037
	Factor 2	4.095	.074
	Factor 3	.155	.703
	Factor 4	1.332	.278
	Factor 5	1.934	.198
Campus Type	Factor 1	.708	.422
	Factor 2	2.740	.132
	Factor 3	1.062	.330
	Factor 4	4.989	.054
	Factor 5	.014	.908
Job Title	Factor 1	6.612	.017
	Factor 2	3.075	.096
	Factor 3	1.251	.332
	Factor 4	4.277	.049
	Factor 5	.350	.714
Gender	Factor 1	.290	.603
	Factor 2	.172	.688
	Factor 3	5.400	.045
	Factor 4	.240	.636
	Factor 5	.022	.886
Years in Position	Factor 1	4.655	.026
	Factor 2	.300	.871
	Factor 3	4.588	.027
	Factor 4	1.227	.365

(table continues)

Source	Dependent Variable	F	Significance (p<.05)
	Factor 5	.936	.485
Years in Education	Factor 1	10.101	.002
	Factor 2	.374	.821
	Factor 3	3.679	.048
	Factor 4	1.690	.236
	Factor 5	.740	.588

Note. Factor 1: Employee Satisfaction
Factor 2: Community Interaction and Service
Factor 3: Student Focus
Factor 4: Institutional Excellence
Factor 5: Employee Development

Analysis of Variance Decision-Making Survey

Participant and college demographic and organizational effectiveness survey ranking (top 33%, middle 33% or bottom 33%) effects were tested for the decision-making survey. Results of the analysis (see Table 11) indicated significant differences (p<.10) for years in position. A .10 level of significance was determined to be the appropriate level of significance for the reason that the decision-making survey portion of the current study was exploratory. Therefore, the current analysis had to be open to a broader scope of findings and reduce the chances of making a Type II error (McMillan & Schumacher, 1997).

Next, the seven factors identified in the decision-making survey data were run against the participant demographics and college characteristics assessing between-subjects effects. Results of the analysis identified significant (p<.10) differences in campus type and Factor 7 (decisions related to college climate and culture - data used recommendations and conversations with constituents), job title and Factor 7 (decisions related to college climate and culture - data used recommendations and conversations with constituents), gender and Factor 5 (decisions related to hiring, firing and promoting employees - data used subjective information on past employee performance) and organizational effectiveness rank and Factor 2 (decisions related to influencing college financial expenditures and income - data used formal studies and reports). These results are presented in Table 12.

Table 11

Decision-Making Survey Analysis of Variance – Multivariate Test*

Effect	F	Significance (p<.10)
Enrollment	.225	.952
Number of Faculty	1.393	.428
Campus Type	1.070	.527
Job Title	1.483	.327
Gender	2.118	.289
Years in Position	2.144	.080
Years in Education	1.803	.139
Organizational Effectiveness Ranking	.792	.672

Note. *Wilks' Lambda

Table 12

Decision-Making Survey Analysis of Variance – Test of Between-Subjects Effects

Source	Dependent Variable	F	Significance (p<.10)
Enrollment	Factor 1	.002	.964
	Factor 2	.795	.396
	Factor 3	.060	.812
	Factor 4	.695	.426
	Factor 5	1.073	.327
	Factor 6	.904	.367
	Factor 7	.006	.940
Number of Faculty	Factor 1	.004	.950
	Factor 2	.670	.434
	Factor 3	1.425	.263
	Factor 4	.003	.959
	Factor 5	.043	.840
	Factor 6	.207	.660
	Factor 7	.211	.657
Campus Type	Factor 1	.529	.485
	Factor 2	.790	.397
	Factor 3	2.220	.170
	Factor 4	.152	.705
	Factor 5	1.804	.212
	Factor 6	.083	.780
	Factor 7	5.530	.043
Job Title	Factor 1	.075	.929
	Factor 2	.201	.822
	Factor 3	1.525	.269
	Factor 4	2.157	.172
	Factor 5	.457	.647
	Factor 6	2.275	.159
	Factor 7	3.469	.076
Gender	Factor 1	.083	.779
	Factor 2	.366	.560
	Factor 3	.159	.699

(table continues)

Source	Dependent Variable	F	Significance (p<.10)
	Factor 4	2.066	.185
	Factor 5	3.803	.083
	Factor 6	1.226	.297
	Factor 7	.423	.532
Years in Position	Factor 1	.350	.838
	Factor 2	.591	.678
	Factor 3	1.332	.330
	Factor 4	.859	.523
	Factor 5	2.707	.099
	Factor 6	1.016	.449
	Factor 7	.868	.519
Years in Education	Factor 1	.684	.620
	Factor 2	.520	.724
	Factor 3	1.914	.192
	Factor 4	1.622	.251
	Factor 5	2.241	.145
	Factor 6	.665	.632
	Factor 7	.652	.640
Organizational Effectiveness Ranking	Factor 1	.406	.542
	Factor 2	4.557	.065
	Factor 3	.517	.493
	Factor 4	.864	.380
	Factor 5	.033	.860
	Factor 6	.244	.635
	Factor 7	.521	.491

Note. Factor 1: Decisions related to meeting the needs of critical constituents – data used recommendations and conversations with constituents

Factor 2: Decisions related to influencing college financial expenditures and income – data used formal studies and reports

Factor 3: Decisions related to institutional resource allocation and strategic direction – data used formal studies and conversations with constituents

Factor 4: Decisions related to implementing mandates, recommendations and decisions – data used subjective studies of past outcomes

Factor 5: Decisions related to hiring, firing and promoting employees data used – subjective information on past employee performance

Factor 6: Decisions related to meeting the needs and influencing the external community – data used formal studies of internal and external constituents

Factor 7: Decisions related to college climate and culture data used – recommendations from and conversations with constituents

Bivariate Correlations

A correlation matrix was generated via the SPSS software package for all participant demographics, college characteristics, organizational effectiveness survey factors, decision-making survey factors and organizational effectiveness ranking. Significant correlations were identified between college state and organizational effectiveness Factor 5 and decision-making Factor 5; number of faculty and organizational effectiveness Factor 2; campus type and organizational effectiveness Factor 2 and organizational effectiveness ranking; years of education and organizational effectiveness Factor 1; college enrollment and organizational effectiveness ranking; and organizational effectiveness Factor 3 and decision-making Factor 2. These results are presented in Table 13.

Table 13

Bivariate Correlations – Significant Items

Correlates	Coefficients
College State	
Organizational Effectiveness Factor 5	.292*
Decision-Making Factor 5	.308*
Number of Faculty	
Organizational Effectiveness Factor 2	.356*
Campus Type	
Organizational Effectiveness Factor 2	-.507**
Organizational Effectiveness Rank	.551*
Years in Education	
Organizational Effectiveness Factor 1	-.284*
College Enrollment	
Organizational Effectiveness Rank	-.344*
Decision-Making Factor 2	
Organizational Effectiveness Factor 3	.293*

Note. *Correlation is significant at the 0.05 level (2-tailed)
**Correlation is significant at the 0.01 level (2-tailed)

Chapter 4 Summary

In Chapter 4 the research results for the current research project were presented. Results of descriptive statistics, reliability and correlation analysis indicated that both the organizational effectiveness and decision-making surveys were normally distributed, reliable and independent measures.

Factor analysis procedures indicated that data yielded from the organizational effectiveness survey data collection clustered into five factors: (a) Employee Satisfaction, (b) Community Interaction, (c) Student Focus, (d) Institutional Excellence and (e) Employee Development, accounting for approximately 47% of the observed variance. Factor analysis procedures performed on the data resulting from the decision-making survey data collection clustered into seven factors: (a) Decisions related to meeting the needs of critical constituents, data used recommendations and conversations with constituents; (b) decisions related to influencing college financial expenditures and income, data used formal studies and reports; (c) decisions related to institutional resource allocation and strategic direction, data used formal studies and conversations with constituents; (d) decisions related to implementing mandates, recommendations and decisions, data subjective studies of past outcomes; (e) decisions related to hiring, firing and promoting employees, data used subjective information on past employee performance; (f) decisions related to meeting the needs and influencing the external community, data used formal studies of internal and external community; and (g) decisions related to college climate and culture, data used recommendations and conversations with constituents. The seven decision-making factors accounted for approximately 46% of the total variance observed.

Participating community colleges were rank ordered according to organizational effectiveness grand mean and presented in two groups, most effective (top 33%) and least effective (bottom 33%). Furthermore, frequencies of reported data used in decision-making were calculated presented and combined with the colleges' organizational effectiveness ranking.

Results of the analysis of variance procedure performed on the organizational effectiveness survey factors indicated significant differences ($p<.05$) for job title, years in position, years in education, college enrollment and number of faculty. Results of the analysis further identified significant ($p<.05$) differences in number of faculty and Factor 1 (Employee Satisfaction), job title and Factor 1 (Employee Satisfaction) and Factor 4 (Institutional Excellence), gender and Factor 3 (Student Focus), years in position and Factor 1 (Employee Satisfaction) and Factor 3 (Student Focus) and years in education and Factor 1 (Employee Satisfaction) and Factor 3 (Student Focus).

Results of the analysis of variance performed on the decision-making survey factors indicated significant differences ($p<.10$) years in position. Furthermore, results of the analysis identified significant ($p<.10$) differences in campus type and Factor 7 (decisions related to college climate and culture - data used recommendations and conversations with constituents); job title and Factor 7 (decisions related to college climate and culture - data used recommendations and conversations with constituents); gender and Factor 5 (decisions related to hiring, firing and promoting employees - data used subjective information on past employee performance); and organizational effectiveness rank and Factor 2 (decisions related to influencing college financial expenditures and income - data used formal studies and reports).

Finally, bivariate correlation analysis was performed for participant demographics, college characteristics, organizational effectiveness survey factors and decision-making survey factors. Results indicated that significant correlations existed between college state and organizational effectiveness Factor 5 and decision-making Factor 5; number of faculty and organizational effectiveness Factor 2; campus type and organizational effectiveness Factor 2 and organizational effectiveness ranking; years of education and organizational effectiveness Factor 1; college enrollment and organizational effectiveness ranking; and organizational effectiveness Factor 3 and decision-making Factor 2 (Table 13).

CHAPTER 5

DISCUSSION AND CONCLUSIONS

In Chapter 5, a discussion of the current research and the conclusions arrived at by the author are presented. The current chapter will begin by revisiting the literature review presented in Chapter 2. Next, the major findings of the data analysis offered in Chapter 4 will be presented. Following the presentation of the major findings of the current research, the questions guiding the current study will be presented and discussed. Next, implications and conclusions resulting from the current research project will be provided. Finally, recommendations for future studies will be offered.

The purpose of the current study as stated was to describe, compare and analyze the use of specific types of data utilized in decision-making by administrators of more effective and less effective public community colleges. The current study was guided by three research questions:

1. What data types do administrators of public community colleges use in decision-making?
2. Is the usage of specific data types by public community college in decision-making a covariant of organizational effectiveness?
3. Is there a difference between the data types administrators of more effective public community colleges use to make decisions and the data types administrators of less effective public community colleges use to make decisions?

Literature Review Summary

In Chapter 2 a review of the literature relevant to the current study was presented. The review included the exploration of the concept and construct of organizational effectiveness. Many studies have demonstrated that the construct of organizational effectiveness can be reliably measured in institutions of higher education and specifically in community colleges education (for example, Cameron, B.J., 1989; Cameron, K.S., 1986; Giglioti, 1987; Kleeman, 1984; Rush, 1988; Smart, 1996). Effectiveness is broadly defined in the current study as "the extent to which an institution possesses the capacity to respond favorably to the needs and expectations of different constituencies," (Cameron & Tschirhart, 1992, p. 94).

The importance for a valid and reliable metric of effectiveness in institutions of higher education has increased in recent years as a result of the rapidly changing environment in which colleges and universities exist, coupled with mounting pressures for accountability and the demonstration of effectiveness (Alfred, Ewell, Hudgins, & McClenney, 1999). Kim Cameron (1986) developed one model for identifying the level of effectiveness in colleges and universities. Cameron's model has also been validated for use by community colleges (Giglioti, 1987).

Management strategies and decision-making processes collectively have been shown to be one of the most important factors in determining organizational effectiveness in institutions of higher education (Cameron, 1986; Child, 1975; Hambrick, 1983). The data used by administrators in institutions of higher education to make decisions are therefore critical in determining the outcomes of events and ultimately the effectiveness of the institution. Management strategies were defined as the pattern of decisions and activities that allocate the organization's resources (Cameron & Tschirhart, 1992). Decision processes were defined as the approaches used by managers and administrators to gather information, solve problems and make choices (Cameron & Tschirhart, 1992).

Strategies and decision-making processes that contribute most significantly to organizational effectiveness in institutions of higher education were assumed to originate with administrators. Evidence for this assumption is provided by Cameron's (1986) research studies in which he found that the strongest predictor of organizational effectiveness in institutions of higher education was administrative behavior. Further, Cameron (1985) summarized eight characteristics of effective administrators that emerged from the research he and others conducted in past investigations (Cameron & Whetten, 1983; Chaffee, 1983).

The eight characteristics of effective administrators are as follows: (a) Place equal emphasis on process and outcomes; (b) low fear of failure – willingness to take risks; (c) nurture the support of strategic constituencies; (d) do not succumb to the tyranny of "legitimate demands" – distinguish between legitimate needs and strong demands for political purposes; (e) leave a distinct imprint – create a perception in others that the administrator is largely effective; (f) error in favor of over communication; (g) respect the power of organizational cultures; and (h) preserve and highlight sources of opportunity.

A study conducted by Cameron and Tschirhart (1992) in an attempted to discern "what management strategies and decision processes are effective in mitigating the expected negative effects of postindustrial environments on institutions of higher education," (p. 89).

Cameron and Tschirhart identified a method for categorizing the strategies employed in organizations and a method to categorize different types of decision processes in their study.

The Cameron and Tschirhart study identified three management strategy types utilized by institutions of higher education. The first type was domain defense management strategies; strategies protecting core activities, goals and customers of the organization. The second type was domain offense management strategies; strategies that increase the core activities, goals and customers by initiating actions. The third management strategy was domain creative activities; strategies adding related domains through activities such as innovation, diversification or merger.

The most common scheme to categorize decision processes, according to Cameron and Tschirhart (1992), was to identify the process in one of five ways: participative or collegial, rational, bureaucratic, political and organized anarchy. Chaffee (1984) describes the participative decision process as driven by consensus, rational decision process as driven by data, bureaucratic decision processes as driven by structured patterns, political decision processes as driven by conflict and power and organized anarchy decision process as driven by accidents.

Cameron and Tschirhart (1992) provided four conclusions resulting from their study: (a) Postindustrial environments have a negative effect on institutional effectiveness, namely, scarcity of resources, increasing competitiveness and turbulence; (b) management strategies were associated with institutional effectiveness and domain offensive strategies were most important; (c) participative decision processes in combination with political and bureaucratic decision processes were most effective in postindustrial environments; and (d) strategies and decision processes that are most effective in postindustrial environments are unlike typical managerial tendencies.

Two important generalizations were drawn from the study described above which relate directly to the current study. The first relates to managerial strategies. The domain offense managerial strategy implies that management should not react to events but instead anticipates opportunities and align the organization to expand (Cameron & Tschirhart, 1992). To anticipate opportunities and position the organization in the environment to take advantage of the institution's strengths, decisions must be made. The second then relates to decision processes. Participative decision processes are more effective because in a turbulent environment, the need for a variety of sources of information and perspectives is increased (Cameron & Tschirhart, 1992).

Central to both management strategies and decision processes are data. Without relevant, reliable and meaningful data management strategies; decision processes are left hollow and based in instinct. Good data then becomes a critical issue in creating an effective institution of higher education. A brief overview of the literature pertaining to performance indicators has been presented to provide a conduit through which to explore how and what data are used in decision-making in higher education and is summarized below.

Borden and Banta (1994) reviewed the literature in search of the different methodological approaches for assessing institutional performance. Borden and Banta organized their findings into three categories: resource allocation, continuous process improvement or total quality management and outcome assessment. The resource allocation perspective highlights objective data such as the amount of money, time and human resources that are allocated to departments, projects or organizational units. The goal here is to maximize outputs or outcomes per unit of input. The next method, total quality management approach, emphasizes efficiency and effectiveness as primary goals and objectives are defined before the process begins. These methods focus on the use of subjective data such as customer satisfaction surveys that measure the quality of the process. The last method identified was outcome assessment, these assessment methods focus on the end results of the educational process. Data sources for this method include both objective data (e.g., student GPA) and subjective data (e.g., student satisfaction surveys).

In theory, the methodological approaches for assessing institutional performance briefly presented above encompass the full spectrum of the educational process – input, process and output. In practice, institutions of higher education often end up focusing on only on a single area. Institutions of higher education must focus on all three components of the educational process if it is to properly assess the organization and improve (Borden & Banta, 1994). If an institution of higher education can continually monitor its progress and use the resulting data to improve, the organization should become more effective.

For the purposes of the current study, the data utilized in decision-making were categorized as input data (information that precedes the educational and administrative processes such as availability of financial resources), process data (information yielded from the educational and administrative processes such as faculty to student ratio), output data (information derived from the results of the educational and administrative processes such as student transfer rates) (Borden & Banta, 1994). Within each of the data categories distinctions were made between objective and subjective data. Objective data were defined as information existing in "hard" numeric form that is free from human judgement such as student enrollment numbers (Whetten & Cameron, 1984). Subjective data was defined as information that is primarily made up of human perceptions such as student interview data (Whetten & Cameron, 1984).

Finally, Chapter 2 briefly described the history and organizational structure of public community colleges. In short, public community colleges are hierarchically organized bureaucracies regulated by the state in which they are located. The primary mission of public community colleges is to meet the educational and training needs of the community in which they reside. The national student population of today's public community colleges includes 47% of all first-time freshmen, 42% of all African-American students, 55% of all Hispanic students and 40% of all Asian or Pacific Islander students (Dykman, 1998). Further, the community college student body tends to reflect the population of the community in which it resides more so than do universities (Cohen & Brawer, 1991).

In concluding the current section it should be pointed out that a wide variety of studies have investigated the relationship between decision processes and effectiveness (for example, Bibeault, 1982; Meyer, 1979; Peters, 1987; Singh, 1986; Rubin, 1978). No study, however, has attempted to link effectiveness to the use of specific data in decision-making. Linking effectiveness and the types of data used by community college administrators is extremely important because "the success or failure of any community college today depends primarily on the ability of its top-level leadership to make valid, efficient and effective decisions, decisions based on pertinent and reliable research data," (Zeiss, 1986, p. 35).

Further, it should be recognized that most community college decision-makers already have a plethora of data available to them via their research department among other sources. In fact, administrators have much of the data necessary to make effective decisions and to contribute to the success of their organization (Moore, 1986).

Major Research Findings

In Chapter 4 the research results for the current research project were presented. Results of descriptive statistics, reliability and correlation analysis indicated that both the organizational effectiveness and decision-making surveys were normally distributed, reliable and independent measures (Appendix I, Appendix J, Appendix M and Appendix P).

Factor analysis procedures indicated that data yielded from the organizational effectiveness survey data collection clustered into five factors: (a) Employee Satisfaction, (b) Community Interaction, (c) Student Focus, (d) Institutional Excellence and (e) Employee Development (Table 3) accounting for approximately 47% of the observed variance (Appendix K).

Factor analysis procedures performed on the data resulting from the decision-making survey data collection clustered into seven factors: (a) Decisions related to meeting the needs of critical constituents, the data utilized were recommendations and conversations with constituents; (b) decisions related to influencing college financial expenditures and income, the data utilized were formal studies and reports; (c) decisions related to institutional resource allocation and strategic direction, the data utilized were formal studies and conversations with constituents; (d) decisions related to implementing mandates, recommendations and decisions, the data utilized were subjective studies of past outcomes; (e) decisions related to hiring, firing and promoting employees, the data utilized were subjective information on past employee performance; (f) decisions related to meeting the needs and influencing the external community, the data utilized were formal studies of internal and external community and (g) decisions related to college climate and culture, the data utilized were recommendations and conversations with constituents (Table 4). The seven decision-making factors accounted for approximately 46% of the total variance observed (Appendix N).

Participating community colleges were rank ordered according to organizational effectiveness grand mean (Table 5) and presented in two groups, most effective (top 33%) and least effective (bottom 33%) (Table 7 and Table 8). Furthermore, frequencies of reported data used in decision-making were calculated, presented and combined with the colleges' organizational effectiveness ranking (Appendix R).

Descriptively the four most frequently cited data types used by participating administrators in decision-making were output objective (24%), process subjective (18%), input subjective (17%) and input objective (17%). The two least frequently cited data types used by participating administrators in decision-making were process objective (13%) and output subjective (12%). The data did not permit tests of statistical significance.

Descriptively, data types used by the most effective community colleges participating in the current study (top 33% ranked by grand mean effectiveness score) were output objective (28%), input objective (20%), process subjective (17%), input subjective (15%), process objective (12%) and output subjective (8%). Data types used by the least effective community colleges participating in the current study (bottom 33% ranked by grand mean effectiveness score) were output objective (23%), input subjective (20%), process subjective (18%), output subjective (15%), input objective (14%) and process objective (11%). The data did not permit tests of statistical significance.

Results of the analysis of variance procedure performed on the organizational effectiveness survey factors identified significant differences ($p<.05$) for job title, years in position, years in education, college enrollment and number of faculty (Table 9). Results of the analysis further identified significant ($p<.05$) differences in number of faculty and Factor 1 (Employee Satisfaction), job title and Factor 1 (Employee Satisfaction) and Factor 4 (Institutional Excellence), gender and Factor 3 (Student Focus), years in position and Factor 1 (Employee Satisfaction) and Factor 3 (Student Focus) and years in education and Factor 1 (Employee Satisfaction) and Factor 3 (Student Focus) (Table 10).

Results of the analysis of variance performed on the decision-making survey factors identified significant differences ($p<.10$) for years in position (Table 11). Furthermore, results of the analysis identified significant ($p<.10$) differences in campus type and Factor 7 (decisions related to college climate and culture - data used recommendations and conversations with constituents); job title and Factor 7 (decisions related to college climate and culture - data used recommendations and conversations with constituents); gender and Factor 5 (decisions related to hiring, firing and promoting employees - data used subjective information on past employee performance) and organizational effectiveness rank and Factor 2 (decisions related to influencing college financial expenditures and income - data used formal studies and reports) (Table 12).

Finally, bivariate correlation analysis was performed for participant demographics, college characteristics, organizational effectiveness survey factors and decision-making survey factors. Results indicated that significant correlations existed between college state and organizational effectiveness Factor 5 and decision-making Factor 5; number of faculty and organizational effectiveness Factor 2; campus type and organizational effectiveness Factor 2 and organizational effectiveness ranking; years of education and organizational effectiveness Factor 1; college enrollment and organizational effectiveness ranking and organizational effectiveness Factor 3 and decision-making Factor 2.

Research Questions

Research Question 1

The first research question presented by the current study was what data types do administrators of public community colleges use in decision-making? The results of the current research suggest that administrators of public community colleges use all types of data as defined in the current study to aid them in their decision-making process. The most frequently cited data types used by participating administrators were output objective (24%) and process subjective (18%). The data types that were cited least frequently by participating administrators were process objective (13%) and output subjective (12%). Objective data was reportedly utilized more frequently (54%) than subjective data (46%) by the participating administrators. The data did not permit tests of statistical significance.

Research Question 2

The second question posed by the current study was is the usage of specific data types by public community college in decision-making a covariant of organizational effectiveness? Results of the current study's data analysis suggest that while the use of certain types of data by participating administrators does not vary according to organizational effectiveness overall score other types of data do. The data types used by participating administrators that does not appear to vary according to overall effectiveness score were output objective, process objective and process subjective. The data types used by participating administrators that do appear to vary according to overall effectiveness score were input objective, input subjective and output subjective. Further, data type subcategories (objective and subjective data) also appeared to vary according to overall effectiveness score. The direction of the variance in data types reportedly used by the participating administrators is addressed by research question 3 in the following subsection. The data did not permit tests of statistical significance.

Research Question 3

The third and final question stated by the current study was, is there a difference between the data types administrators of more effective public community colleges use to make decisions and the data types administrators of less effective public community colleges use to make decisions? The results of the current study's data analysis indicated that there does appear to exist some differences in the data used by administrators of more and less effective community colleges. Again, the data did not permit tests of statistical significance. First, administrators of more effective community colleges rely more heavily on output objective data (28%) than do administrators of less effective community colleges (23%) although administrators of both more effective and less effective community colleges identified output objective data as their most frequently utilized data type.

Second, input objective data was found to be the second most frequently used data type of administrators of more effective community colleges (20%) while input objective data was identified to be the fifth most frequently utilized data type of administrators of less effective community colleges (14%). Third, input subjective data were identified as the second most frequently used data type by administrators of less effective community colleges (20%) while input subjective data were identified as the fourth most frequently utilized data type of more effective community colleges (15%). Fourth, administrators of less effective community colleges reportedly used output subjective information more so (15%) than administrators of more effective community colleges (8%).

Fifth, administrators of more effective community colleges indicated that they utilize objective data (60%) more so than administrators of less effective community colleges (47%). Finally, administrators of less effective community colleges used subjective data (53%) more so than did administrators of more effective community colleges (40%).

Implications and Conclusions

Administrator Experience

The results of analysis of variance performed on the organizational effectiveness and decision-making survey factors separately uncovered influences of administrator experience on how participants responded to items contained in the surveys. Participant demographics utilized as indices of administrator experience were years in current position, years working in the field of education and job title.

Significant differences identified for the organizational effectiveness survey were job title, years in education and years in education. Significant differences where further identified between participants according to job title and organizational effectiveness Factor 1 (Employee Satisfaction), years in current position and Factor 1 (Employee Satisfaction) and Factor 3 (Student Focus) and years in the field of education and Factor 1 (Employee Satisfaction) and Factor 3 (Student Focus).

Significant differences identified for the decision-making survey were years in current position. Significant differences were also identified between participants according to job title and decision-making Factor 7 (decisions related to college climate and culture utilizing recommendations from and conversations with constituents).

One possible explanation for why administrator experience significantly influenced the way participants responded on the effectiveness and decision-making surveys relates to the organizational structure of typical community colleges. Community colleges are typically structured as bureaucratic hierarchies (Cohen & Brawer, 1991). In organizations structured as hierarchies more authority power is granted to those at higher levels in the hierarchy than those at lower levels (Pfeffer, 1992). Those at the higher levels of the hierarchy have greater power to hire and fire employees, measure and reward employee behavior, direct the action of those under them in the hierarchy and influence the strategic direction of the organization.

As a result, the perception of organizational effectiveness of those with more authority power significantly varies from those with less authority power in a community college hierarchy. It is reasonable to surmise that those directing the activities of the organization through the use of authority power have a more favorable view of the organizational effectiveness than those implementing their directives because they are more directly evaluating their own work. Another possibility for the difference in organizational effectiveness survey responses is that those higher in the organization have more and better information to accurately assess the effectiveness of their organization.

Again, those higher in the hierarchy have more position authority. The authority power afforded to those higher in the organization allow them a more advantageous position to request and receive a wider variety and higher quality data form those beneath them in the hierarchy. It is logical to reason then that years of administrator experience and thus position in hierarchy would directly effect the data administrators of community colleges have at their disposal and therefore use in their decision-making.

It was also found through analysis of variance procedures that participants specifically responded differently to survey questions making up organizational effectiveness Factor 1 (Employee Satisfaction) and Factor 3 (Student Focus) according to administrator experience. Further, correlation analysis identified a negative correlation between years of experience in education and Factor 1 (Employee Satisfaction). Again, this finding could be due to the respondent's position in the organizational hierarchy.

Those lower in the hierarchy and thus closer to the employee masses and student body have a significantly different perception of the reality of how satisfied the employees are and how the organization focuses on students. Correlation results found that as administrator experience rises, organizational effectiveness ratings of employee satisfaction falls. One explanation for this finding is that those closer to the employee masses and student body have a more accurate view of reality as it relates to employee satisfaction and student focus. Conversely, as administrators gain more experience and move upward in the hierarchy they become more removed form the employees and students, which may distort the more experienced administrator's perception of employee satisfaction.

Furthermore, it was found that participants responded differently to survey questions making up decision-making Factor 7 (making decisions related to college climate and culture utilizing recommendations from and conversations with constituents) according to administrator experience. This finding more specifically states that a significant difference exists between administrator experience and whether or not a participant indicated that they use recommendations from and conversations with constituents to make decisions related to college climate and culture. Once again position in hierarchy and the resulting authority power may provide the explanation for the difference in responses. The authority power afforded to those higher in the organization allow them a more advantageous position to request and receive a wider variety and higher quality data form those beneath them in the hierarchy. Therefore, it may be that administrators higher in the organizational hierarchy are abled to obtain and rely on more formal data than those lower in the hierarchy who are forced to rely on informal recommendations and conversations with constituents to make decisions related to organizational climate and culture. Another possibility is that higher level administrators may request lower level administrators to gather data and make recommendations to them regarding decisions related to college climate and culture. In this scenario, the higher level administrator relies on recommendations and conversations to make decisions related to climate and culture while the lower level administrator relies on the data gathered from some other source to formulate the recommendation.

College Size and Complexity

Correlation analysis performed between the community college effectiveness ranking and college characteristics produced significant correlation coefficients ($p<.05$) between college effectiveness ranking and college enrollment and effectiveness ranking and campus type. The significant negative correlation between college enrollment and organizational effectiveness ranking indicated that as a community college enrollment grows effectiveness rank increases. Further, Correlation analysis indicated that colleges belonging to a multi campus systems produced higher effectiveness rankings than did colleges of single campus community colleges.

The results generated via the correlation analysis are further supported by the current study's analysis of variance. Significant differences were identified between the five organizational effectiveness factors and college enrollment and number of faculty. These findings indicated that the individual participants' responses varied significantly on the organizational effectiveness survey according to the size of the organization by which they were employed.

The findings of the correlation analysis and analysis of variance suggest that as the size and complexity of a community college grows so does the organization's effectiveness.

Organizational size and complexity are not independent. Bolman and Deal (1997) point out that as an organization grows "pressures for efficiency and discipline push toward greater formalization and complexity" (p. 50). Furthermore, Bolman and Deal argue that if growth is not accompanied by appropriate alterations in the organizational structure and in the relationships within that structure than the organization will suffer. The correlation and analysis of variance findings of the current research suggest that the larger and more complex community colleges in the current sample have successfully made the appropriate adjustments and are thus more effective than their smaller counterparts.

Further, larger community colleges obviously have more departments, personnel and resources at their disposal than smaller less complex community colleges. It is possible then that larger community colleges have the enhanced ability to gather and analyze more and better data for use in decision-making. As discussed above, administrators of colleges scoring higher on the current studies measure of effectiveness used objective data more often than subjective data in their decision-making. Conversely, administrators of less effective colleges utilized subjective data more often in their decision-making. It is reasonable than to surmise that larger more complex community colleges have the resources to conduct formal studies and gather more objective data for decision-making and thus become more effective organizations.

If the above conclusion is correct, smaller less complex community colleges are seemingly forced into using more subjective data in the decision-making process as a result of their lack of resources. If using more objective data than subjective data in decision-making does indeed influence the effectiveness of community colleges, than smaller community colleges would be well advised to shift some of their limited resources to conducting formal studies that include relevant objective data to help them make targeted critical decisions. Further, smaller less complex community colleges should turn to the Internet and its almost endless sources of free and reliable objective and subjective data to utilize in their decision-making processes. Rigorously collected data can be found on the Internet from the web sites of such respectable organizations as the National Center for Education Statistics, National Bureau of Labor Statistics and American Association of Community Colleges, to name but a few.

Another interesting finding of the analysis of variance procedures was that participants of different college size (number of faculty) were found to respond significantly different on organizational effectiveness Factor 1 (Employee Satisfaction). Furthermore, participants of different college complexities (college type) varied significantly on decision-making Factor 7 (making decisions related to college climate and culture utilizing recommendations from and conversations with constituents). These findings mirror and reinforce those found between administrator experience and organizational effectiveness Factor 1 and decision-making Factor 7.

It is further noted that community colleges are most commonly structured as bureaucratic hierarchies thus those administrators with more experience are likely to occupy higher positions in the hierarchy than those administrators possessing less experience. Recall also that as an organization grows so to does the formalization and complexity of the organization. Therefore, as the organizational grows and becomes more formalized, greater authority power is granted to those more experienced administrators in higher hierarchical positions via the bureaucratic nature of the organization. The result is a compounded meaningful difference in the way more and less experienced administrators of more and less complex community colleges perceive organizational effectiveness and use data in decision-making.

Gender

Significant differences were identified through the analysis of variance procedures between the way male and female participants responded to survey items making up organizational effectiveness Factor 3 (Student Focus). Differences in the way male and female participants responded to decision-making Factor 5 (decisions related to hiring, firing and promoting employees utilizing subjective information on past employee performance) were also identified by the analysis of variance procedure.

One study conducted by Kouzes and Posner (1990) identified two gender differences in leadership style through the use of the Leadership Practices Inventory. Kouzes and Posner found that female managers were more likely then male managers to be consistent between espoused views and the behaviors that they practice. The second difference between male and female managers identified was that female managers tend to give more positive feedback than do male managers.

The virtually universal mission of public community colleges is to serve the community in which the college resides. The difference between the way in which male and female administrators responded to organizational Factor 3 (Student Focus) then could be due to the Kouzes and Posner (1990) finding that women tend to display consistency between their views and practices more so than do men. When an individual joins the administrative ranks of a community college it is highly likely that they adopt the view that the mission of the community college is to serve the community in which the college resides. Therefore, it is a distinct possibility that women and men differ significantly in their responses to Factor 3 (Student Focus) for the reason that women are more likely than men to align their behaviors with their view that the mission of the community college is to serve the community. Thusly, women may focus more on the their college's students more so than do men.

The second difference between male and female managers as identified by Kouzes and Posner (1990) was that female managers tend to give more positive feedback than do male managers. This may explain why significant differences were identified between the way male and female participants responded to decision-making Factor 5 (decisions related to hiring, firing and promoting employees utilizing subjective information on past employee performance). Administrators who give more positive feedback are probably more likely to be more positive in general. If the administrator values positive people and seeks to add positive people to and eliminate negative people from their staff than they must identify measures to evaluate the attitude of current and potential personnel. Measures of attitude are much more readily available in the form of subjective data. The result may be that in their search for measures of attitude, women are more likely to rely on the more abundant sources of subjective data regarding past employee performance.

Objective and Subjective Data

The most striking difference between the data administrators of more effective community colleges and administrators of less effective community colleges was the frequency at which they utilize objective and subjective data. Administrators of more effective community colleges utilized objective data more often than subjective data while administrators of less effective community colleges utilized subjective data more often than objective data. Furthermore, administrators of more effective community colleges used objective data more often than did administrators of less effective community colleges.

As discussed in Chapter 2 (p. 20), objective data are data that exist in "hard" numbers such as student enrollment numbers and cost over expense ratios. The advantages of objective data are that they are quantifiable, potentially less biased and represent the official position of the organization. The disadvantages of objective data are they are typically gathered on sanctioned criteria, used only for developing public image and do not tap into the perspectives of the institution's constituents (Whetten & Cameron, 1984).

Subjective data are primarily made up of the perceptions of the institution's constituents and are usually gathered through interviews, focus groups, or questionnaires. The advantages of subjective data are that they assess a broader array of criteria that cannot be tapped through objective data. The disadvantages of subjective data are that they are vulnerable to researcher and subject bias, dishonesty, or respondent's lack of information. In addition, subjective types of data are more at risk to problems with validity and reliability (Whetten & Cameron, 1984). In the sections that follow some possibilities for the reasons administrators of more effective organizations rely more heavily on objective data than subjective data will be explored. Included in the discussion that follows will be a presentation of the possible reasons why administrators of less effective community colleges rely more heavily on subjective data than objective data.

Legitimate Needs Versus Strong Demands

As previously stated in Chapter 2, strategies and decision-making processes that contribute most significantly to organizational effectiveness in institutions of higher education are assumed in the current study to originate with administrators. Evidence for this assumption is provided by Cameron's (1986) research studies in which he found that the strongest predictor of organizational effectiveness in institutions of higher education was administrative behavior.

One possibility for why administrators of more effective community colleges utilize objective data more often than subjective data is found in Cameron's (1986) summary of eight characteristics of effective administrators (p. 79). One of the eight characteristics of effective administrators was that effective administrators distinguish between the legitimate needs of the organization and strong demands from individuals or groups for political purposes. Because administrators of more effective community colleges use more objective data that is less biased than subjective data in their decision-making they may be better equipped to distinguish between legitimate needs and strong demands for political purposes. In other words, strong demands for political purposes might be identified as legitimate needs through subjective data gathering methods because subjective methods are vulnerable to subject bias. Administrators of more effective community colleges may hear the strong demands of their constituents but verify or refute those demands by gathering more objective data. Thus, the administrator who is able to distinguish between legitimate and strong demands, makes a better decision and consequently contributes to the effectiveness of the organization.

Highlighting Sources of Opportunity

Another one of the eight characteristics of effective administrators as identified by Cameron (1986) is that effective administrators preserve and highlight sources of opportunity. To preserve and highlight sources of opportunity for the institution an administrator must build a persuasive case that identifies opportunities. Regardless of legitimacy, objective data is often more persuasive than subjective data. It would be difficult for an administrator to convince a board of regents that a college should launch a vocational education program based on a few conversations with students and employers. It would be much more persuasive to have gathered objective data and created a presentation and report outlining trends in the economy and regional employee needs. In effect, the administrator who soundly identifies sources of opportunity through the use of objective data, is able to persuade constituents to act in order to take advantage of the opportunity and the result is a more effective administrator and organization.

Domain Offensive Strategies

The ability to highlight and take advantage of opportunities ties into another finding of effective institutions of higher education as presented by Cameron and Tschirhart (1992). Cameron and Tschirhart found that domain offensive management strategies were highly associated with institutional effectiveness. Domain offensive strategies are strategies that increase core activities, goals and customers by initiating action (Cameron & Tschirhart, 1992). Thus, it is a distinct possibility that administrators who are able to highlight organizational opportunity and successfully persuade constituents to act primarily through the use of objective data are enlisting a domain offensive strategy. These administrators have an enhanced ability to increase core activities, goals and/or customers resulting in a more effective organization.

Obviously administrators of any type of college should not rely solely on objective data. The results of the current study suggest that administrators should balance their use of subjective and objective data while relying more heavily on objective data. Objective data should be used more liberally by administrators to confirm subjective data when possible, identify opportunities, highlight personal and institutional accomplishments and when building cases to persuade constituents to take action or give support.

Influencing Financial Resources

Analysis of variance procedures identified significant differences ($p<.10$) between organizational effectiveness rank and decision-making Factor 2 (decisions related to influencing college financial expenditures and income utilizing data from formal studies and reports). The finding suggests that utilizing objective data from formal studies and reports (as determined from survey coding) to make decisions related to controlling the ebb and flow of financial resources is significantly related to organizational effectiveness. This finding again highlights the importance of objective data and introduces financial resources to the mix.

As discussed in Chapter 2, Cameron and Tschirhart (1992) concluded from their research that domain offensive management strategies were most associated with organizational effectiveness in institutions of higher education. Cameron and Tschirhart defined domain offensive strategies as strategies that increase the core activities, goals and customers by initiating actions. Basically, Cameron and Tschirhart were indicating that effective management strategies are strategies that initiate action or get things done through expansion of one sort another. Bolman and Deal (1997) call the ability to get things done "power" (p. 164). In effect, successful management strategies are those where administrators use power to expand their organization in some way.

Power in almost any organization is most fundamentally determined by whom or by what group controls the organization's resources (Pfeffer, 1992). Most certainly, a most valuable resource in the community college or any organization is control over financial resources. It is possible then that administrators who utilize objective data in influencing the financial resources of an organization have more power and are thus better equipped to expand the organization and help the organization to become more effective.

Decision-Making – Organizational Effectiveness Model

The discussion and conclusions presented above were organized and utilized by the current author to construct the Decision-Making – Organizational Effectiveness Model. As can be seen in Figure 1, the Decision-Making – Organizational Effectiveness Model begins

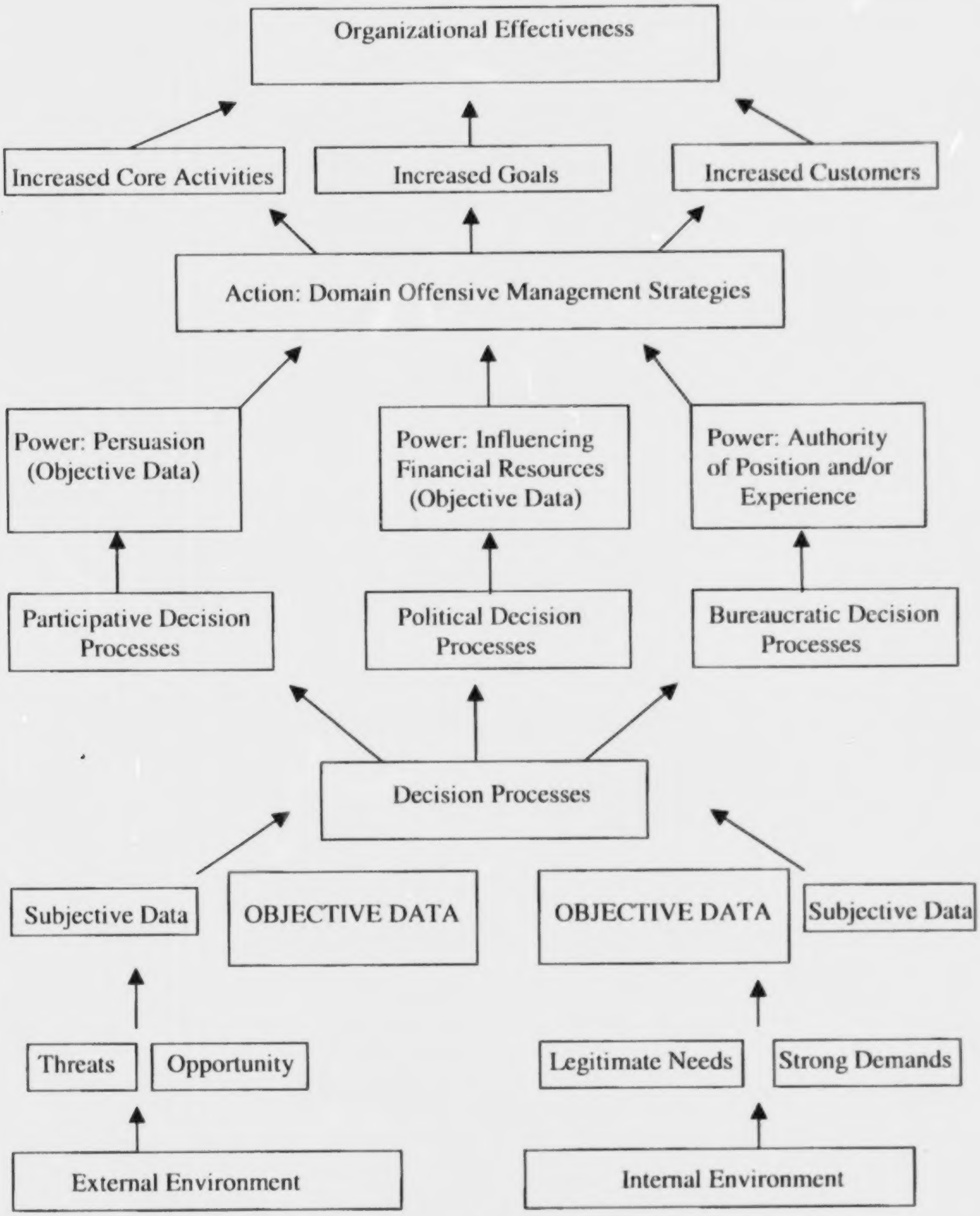
Organizational Effectiveness
Increased Core Activities
Increased Goals
Increased Customers
Action: Domain Offensive Management Strategies
Power: Persuasion (Objective Data)
Power: Influencing Financial Resources (Objective Data)
Power: Authority of Position and/or Experience
Participative Decision Processes
Political Decision Processes
Bureaucratic Decision Processes
Decision Processes
Subjective Data
OBJECTIVE DATA
OBJECTIVE DATA
Subjective Data
Threats
Opportunity
Legitimate Needs
Strong Demands
External Environment
Internal Environment

Figure 1. Decision-Making – Organizational Effectiveness Model

in the external and internal environment. The external environment yields both opportunities for and threats to the community college. Like wise, the internal environment yields both legitimate needs and strong demands. The effective administrator utilizes more objective data than subjective data in their decision-making process in an effort to properly identify the products of the environments (e.g., legitimate needs and strong demands).

Effective administrators utilize three types of decision processes either separately or in combination depending on the situation (Cameron & Tschirhart, 1992). The three decision processes are participative, political and bureaucratic. Chaffee (1984) describes the participative decision processes as driven by consensus, political decision processes as driven by conflict and power and bureaucratic decision process as driven by structure and patterns.

The decision processes utilized by effective administrators relate directly to the current study's findings. In situations where participative decision processes are required (e.g., convincing the board of regents to start a new vocational education program) effective administrators draw their power from persuasion. As discussed earlier, the use of objective data enhances the administrator's ability to persuade constituents and thus take the action or give support to the opportunity or legitimate need as identified by the administrator.

In situations where political decision processes are utilized (e.g., conducting salary negotiations with faculty representatives) power of the most effective administrators is derived from influencing financial resources with objective data again playing a significant role. The effective administrator leverages their influences over financial resources to act or motivate others to act in order to take advantage of identified external opportunities or meet internal legitimate needs.

In bureaucratic decision process situations (e.g., deciding on who to hire for critical new position) effective administrators leverage their position power granted to them by their order in the organizational hierarchy. Again, the effective administrator leverages their power to act or to motivate others to act in order to take advantage of external opportunities or meet internal legitimate needs. No link to objective data was identified in the bureaucratic decision-making process.

The power of persuasion, power of influencing financial resources and power of position used separately or in tandem are exercised by effective administrators to enlist a domain offensive strategy. The domain offensive management strategy is a strategy that emphasizes expansion through increasing core activities, organizational goals and/or customers. Finally, if the administrator can increase core activities, goals and/or customers through leveraging different sources of power to take advantage of external opportunities and meeting legitimate internal needs as identified primarily by objective data the organization should be effective.

Summary of Implications and Conclusions

The current study found that administrators of more effective community colleges rely more heavily upon objective data than subjective data in decision-making. Conversely, administrators of less effective community colleges rely more heavily upon subjective data than objective data in their decision making than do administrators of more effective community colleges. Administrators of both more effective and less effective community colleges appear to rely on a fairly equal mix of input, process and output data in their decision making process.

The results also suggested that administrator experience, community college size and complexity and gender of administrator has an impact on both perceptions of organizational effectiveness and data use in decision-making. A model was presented linking administrator decision-making and organizational effectiveness. The Decision-Making – Organizational Effectiveness Model states that if administrator can increase core activities, goals and/or customers through leveraging different sources of power to take advantage of external opportunities and meeting legitimate internal needs as identified primarily by objective data, the administrator and organization should be effective.

Recommendations for Future Studies

The current study was an exploratory study attempting to describe, compare and analyze the use of specific types of data utilized in decision-making by administrators of more and less effective community colleges. The study was at least partially successful in this respect as described above.

It is recommended that future researchers refine the decision-making survey created for and utilized in the current study. One recommended refinement to the decision-making survey is to convert the questions from forced choice to scaled items. This would aid the researcher in specifically identifying how likely an administrator would be to use specific types of data in their decision-making processes. Converting the forced choice items would also aid the researcher in data analysis. If the items were scaled it would possible to statistically compare the means of individual and groups of survey items between the organizational effectiveness survey and decision-making survey.

Furthermore, only the perceptions of administrators were considered in determining organizational effectiveness. The author recognizes that reliance on only one classification of community college constituents and stakeholders limits the current study. Therefore, future studies should include faculty and students as organizational effectiveness survey participants to more accurately measure the effectiveness of the community colleges included in the sample.

Future studies should also gather more participant demographic and college characteristic information. The analysis of variance procedure performed on the data collected via the organizational effectiveness survey in the current study yielded a significant ($p<.001$) Intercept of $F = 34.489$ for Wilks' Lambda multivariate test. Multiple attempts were made to identify the source of the intercept by running additional multivariate tests removing each participant demographic and college characteristic one by one. The source of the Intercept could not be identified. It is possible that by adding additional participant demographic and college characteristic data gathering points, the source of the Intercept would be identified.

The current study was exploratory in nature as a result the sample used was small ($n=50$). If the findings are to be generalized to the national population of community colleges, a stratified random sample, representative of the population, should be surveyed and studied.

APPENDIX A

CAMERON'S ORGANIZATIONAL EFFECTIVENESS SURVEY AND KEY

Note: This instrument is copyrighted, and was obtained from Kim S. Cameron, Ph.D., at Case Western Reserve University, Cleveland, Ohio. Used with permission (obtained January, 1999).

ASSESSMENT OF ORGANIZATIONAL EFFECTIVENESS

Section One Instructions

To what extent are the following characteristics typical of this undergraduate portion of this college? Please mark the appropriate response using the scale immediately below.

Very true or highly typical of this institution			Neither typical nor atypical			Very untrue or highly atypical of this institution
(7)	(6)	(5)	(4)	(3)	(2)	(1)

____ 1. This college has the reputation of possessing a stimulating intellectual environment with high concern for student academic development.

____ 2. One of the outstanding features of this college is the opportunity it provides students for personal development in addition to academic development.

____ 3. This college is highly responsive and adaptive to meeting the changing needs of the external college community or environment.

____ 4. This college has a very high ability to obtain needed financial resources in order to provide high quality educational program.

____ 5. When hiring new faculty members this college can attract the leading people in the country in their respective fields to take a job here.

____ 6. This college can attract the leading high school graduates in the country to attend.

____ 7. This college has a very high ability to obtain resources it needs to be effective.

____ 8. In general, after students leave this institution, they maintain a strong commitment to the college.

____ 9. At activities or events where alumni are invited by the college to participate, a large showing of support usually occurs.

____ 10. There seems to be a feeling that dissatisfaction is high among students in general at this institution.

____ 11. There have been a relatively large number of students either that either drop out or not return because of dissatisfaction with their educational experiences here.

____ 12. I am aware of a large number of student complaints regarding their educational experiences here as registered in the campus newspaper, meetings with faculty members or administrators, or other public forums.

Section Two Instructions
Please place a check mark next to the most appropriate alternative.

13. Think of last year's graduating class at this institution. Please rate the academic attainment or academic level achieved by that class as a whole.

____ a. That class is among the very top college graduating classes in the country.
____ b. That class is well above average.
____ c. That class is slightly above average.
____ d. That class is about average.
____ e. That class is slightly below average.
____ f. That class is below average.
____ g. That class is near the bottom of college classes in the country.

14. Estimate what percentage of the graduates from this institution go on to obtain degrees in graduate or professional schools.

____ a. From 91% to 100% of the students go on to obtain bachelor's degrees or jobs in their field of study
____ b. From 76% to 90%
____ c. From 61% to 75%
____ d. From 46% to 60%
____ e. From 31% to 45%
____ f. From 16% to 30%
____ g. From 0% to 15% of the students go on to obtain bachelor's degrees or jobs in their field of study

15. How important is it to students here that opportunities for personal and non-academic development (e.g., social, emotional, cultural, etc.) are provided at this institution?

____ a. Personal development activities are very important to students here
____ b. They are important
____ c. They are somewhat important
____ d. They are neither important nor unimportant
____ e. They are somewhat unimportant
____ f. They are unimportant
____ g. They are very unimportant to students here

Section Three Instructions
To what extent are the following does the undergraduate college emphasize or encourage the following? Please mark the appropriate response using the scale immediately below.

Very high degree of emphasis or encouragement here			Moderate degree of emphasis or encouragement here			No emphasis or encouragement here
(7)	(6)	(5)	(4)	(3)	(2)	(1)

____ 16. Activities outside the classroom designed specifically to enhance students' **academic** development

____ 17. Activities outside the classroom designed specifically to enhance students' **personal non-academic** development

____ 18. The engaging in professional activities outside the college by faculty members and administrators

____ 19. College-community or college-environment relations

Section Four Instructions
Please mark the appropriate response using the scale immediately below.

A very large number or amount			A moderate number or amount			None
(7)	(6)	(5)	(4)	(3)	(2)	(1)

____ 20. How many career development opportunities are provided for students at this college?

____ 21. How much would you say students develop and mature in non-academic areas (e.g., socially, emotionally, culturally, etc.) directly as a result of their experiences at this college?

____ 22. How many faculty members and administrators at this college would you say serve the community in government, on boards or committees, as consultants, or in other capacities?

____ 23. How many community-oriented programs, workshops, projects, or activities would you estimate were sponsored by this college last year?

Section Five Instructions
Please mark the appropriate response using the scale immediately below.

7 – Almost all
6 – A large majority
5 – More than half
4 – About half
3 – Less than half
2 – A small minority
1 – Almost none

____ 24. How many faculty members would you say have respected reputations in their respective academic fields?

____ 25. How many students would you say engage in extra academic work (e.g., reading, studying, writing, etc.) over and above what is specifically assigned in the classroom?

____ 26. What proportion of the students who graduated from this college last year and entered into the labor market would you estimate obtained employment in their major field of study?

____ 27. How many students would you say attend this college to fulfill definite career or occupational goals as opposed to attend for social, athletic, financial, or other reasons?

____ 28. Approximately what proportion of the undergraduate courses offered at this college are designed to be career oriented or occupation-related as opposed to literal education, personal development, etc.?

Section Five

7 – Almost all
6 – A large majority
5 – More than half
4 – About half
3 – Less than half
2 – A small minority
1 – Almost none

____ 29. Of those students who went on the job market after graduating from this college last year, how many would you say obtained the job of their first choice as opposed to settling for a less than optimal choice?

____ 30. Think of those students who have obtained employment after graduating from this college. For how many of them was career training received at this institution important in helping them obtain their job?

____ 31. If given the chance of taking a similar job at another school of his/her choice, how many faculty members do you think would opt for leaving this school rather than staying?

____ 32. If given the chance of taking a similar job at another school of his/her choice, how many administrators do you think would opt for leaving this school rather than staying?

____ 33. Estimate how many faculty members at this college are personally satisfied with their employment.

____ 34. Estimate how many administrators at this college are personally satisfied with their employment.

____ 35. Estimate how many faculty members are personally satisfied with the way things are done around this school.

____ 36. Estimate how many administrators are personally satisfied with the way things are done around this school.

____ 37. Approximately what proportion of the faculty members and administrators at this college attend a conference or workshop specifically oriented toward professional and/or personal development last year?

____ 38. How many of the faculty members at this college would you say published a book or an article in a professional journal, or displayed a work of art in a show last year?

____ 39. What proportion of the faculty members would you estimate teach at the "cutting edge" of their field (i.e., required **current** journal articles as reading, revise syllabi at least yearly, discuss current issues in the field, etc.)?

____ 40. How many faculty members at this college would you estimate have at some time received an academic award or honor such as teaching, research, or professional award, or a listing in a national honorary directory?

____ 41. How many faculty members at this college are actively engaged now in professional development activities (e.g., doing research, getting advanced degrees, etc.)?

____ 42. Colleges may be rated on the basis of their relative "drawing poser" in attracting top high school students. In relation to other colleges with which it directly competes, what proportion of the top students attend this college rather than the competition?

Section Six Instructions

This section asks you to rate your perceptions of the general day-to-day functioning of the undergraduate portion of the overall institution. Please respond by circling the number that best represents your perceptions of each item. If you agree strongly with one end of the scale, circle a number closer to that end of the scale. If you feel neutral about the item, circle a number near the middle of the scale.

How do you perceive the following?

43. Student faculty relationships		
unusual closeness, lots of informal interactions, mutual personal concern	1 2 3 4 5 6 7	no closeness, mostly instrumental relations, little informal interaction
44. Interdepartmental relationships in the college		
lots of coordination, joint planning, collaboration, no friction	1 2 3 4 5 6 7	no joint activity, conflict, lack of coordination and communication
45. General pattern of supervision and control		
rigid control, strict supervision, pressure for conformity	1 2 3 4 5 6 7	respect for differences, personal freedom, individual autonomy
46. Equity of treatment and rewards		
people treated fairly and rewarded equitably	1 2 3 4 5 6 7	favoritism and inequity present, unfair treatment exists
47. Recognition and rewards received for good work from supervisors		
recognition received for good work, rewarded for success	1 2 3 4 5 6 7	no rewards for good work, no one recognizes success
48. The amount of information or feedback you receive		
feel informed, in-the-know, information is always available	1 2 3 4 5 6 7	feel isolated, out-of-it, information is never available
49. Type of communication that is typical		
guarded, screened, cautious, formal	1 2 3 4 5 6 7	open, authentic, personal, free
50. The general social environment		
cooperative, supportive, mutual concern for others, humane	1 2 3 4 5 6 7	competitive, no support, unsypathetic, "every person for themselves"
51. The flexibility of the administration		
willing to change, adaptable, progressive, flexible	1 2 3 4 5 6 7	rigid, unwilling to change, stagnant, unyielding
52. General levels of trust among people here		
high suspicion, fear, distrust, insecurity	1 2 3 4 5 6 7	high trust, security, openness
53. Conflicts and friction in the college		
large amount of conflict, disagreements, anxiety, friction	1 2 3 4 5 6 7	no friction or conflicts, friendly collaborative

Section Six

54. Resolution of disagreements or conflicts		
imposition, avoidance, dictum, suppression, bad feelings result	1 2 3 4 5 6 7	face-to-face, compromise, democratically, positive feeling result
55. Use of talent and expertise of faculty members and administrators		
competencies and talents used maximally, chances for fulfillment and development are present	1 2 3 4 5 6 7	competencies not used, no opportunities for growth, talents unused
56. Organizational health of the college		
college runs smoothly, healthy organization, productive internal functioning	1 2 3 4 5 6 7	college runs poorly, unhealthy organizational, unproductive internal functioning
57. Long term planning and goal setting		
much goal directed activity, long-term planning, continuous goal assessments	1 2 3 4 5 6 7	no goal directed activity, no planning, no goal assessments

THANK YOU FOR YOUR VALUABLE TIME

COMMUNITY COLLEGE ORGANIZATIONAL SURVEY KEY

SCALE

1 – Student Educational Satisfaction
2 – Student Academic Development
3 – Student Career Development
4 – Student Personal Development
5 – Faculty and Administrator Employment Satisfaction
6 – Professional Development and Quality of the Faculty
7 – System Openness and Community Interaction
8 – Ability to Acquire Resources
9 – Organizational Health

ITEM	SCALE
1	2
2	4
3	7
4	8
5	8
6	8
7	8
8	1
9	1
*10	1
*11	1
*12	1
13	2
14	2
15	4
16	2
17	4
18	7
19	7
20	3
21	4
22	7
23	7
24	6
25	2
26	3
27	3
28	3
29	3
30	3
*31	5
*32	5
33	5
34	5
35	5
36	5
37	6
38	6
39	6
40	6
41	6
42	8
43	9
44	9
*45	9
46	9
47	9
48	9
*49	9
50	9
51	9
*52	9
*53	9
*54	9
55	9
56	9
57	9

***Reverse Score**

APPENDIX B

MODIFIED ORGANIZATIONAL EFFECTIVENESS SURVEY AND KEY

Note: This instrument is copyrighted, and was obtained from Kim S. Cameron, Ph.D., at

Case Western Reserve University, Cleveland, Ohio. Used with permission (obtained January, 1999).

COMMUNITY COLLEGE ORGANIZATIONAL SURVEY

SECTION ONE INSTRUCTIONS

To what extent are the following characteristics typical of this college? Please mark the appropriate response using the scale immediately below.

Very true or highly typical of this institution			*Neither typical or atypical*		*Very untrue or highly atypical of this institution*	
7	6	5	4	3	2	1

____ 1. This college has the reputation of possessing a stimulating intellectual environment with high concern for student academic development.

____ 2. One of the outstanding features of this college is the opportunity it provides students for personal development in addition to academic development.

____ 3. This college is highly responsive and adaptive to meeting the changing needs of the external college community or environment.

____ 4. This college has a very high ability to obtain needed financial resources in order to provide high quality educational program.

____ 5. When hiring new faculty members this college can attract leading people in their respective fields to take a job here.

____ 6. This college can attract the leading high school graduates to attend.

____ 7. This college has a very high ability to obtain resources it needs to be effective.

____ 8. In general, after students leave this institution, they maintain a strong commitment to the college.

____ 9. At activities or events where alumni are invited by the college to participate, a large showing of support usually occurs.

____ 10. There seems to be a feeling that dissatisfaction is high among students in general at this institution.

____ 11. There have been a relatively large number of students either that either drop out or not return because of dissatisfaction with their educational experiences here.

____ 12. I am aware of a large number of student complaints regarding their educational experiences here as registered in the campus newspaper, meetings with faculty members or administrators, or other public forums.

SECTION TWO INSTRUCTIONS

Please place a check mark next to the most appropriate alternative.

13. Think of last year's graduating class at this institution. Please rate the academic attainment or academic level achieved by that class as a whole.

____ a. That class is among the very top community college graduating classes in the country.
____ b. That class is well above average.
____ c. That class is slightly above average.
____ d. That class is about average.
____ e. That class is slightly below average.
____ f. That class is below average.
____ g. That class is near the bottom of community college classes in the country.

16. Estimate what percentage of the graduates from this institution go on to obtain bachelor's degrees or jobs in
their field of study.

____ a. From 91% to 100% of the students go on to obtain bachelor's degrees or jobs in their field of study
____ b. From 76% to 90%
____ c. From 61% to 75%
____ d. From 46% to 60%
____ e. From 31% to 45%
____ f. From 16% to 30%
____ g. From 0% to 15% of the students go on to obtain bachelor's degrees or jobs in their field of study

17. How important is it to students here that opportunities for personal and non-academic development (e.g., social, emotional, cultural, etc.) are provided at this institution?

____ a. Personal development activities are very important to students here
____ b. They are important
____ c. They are somewhat important
____ d. They are neither important nor unimportant
____ e. They are somewhat unimportant
____ f. They are unimportant
____ g. They are very unimportant to students here

SECTION THREE INSTRUCTIONS

To what extent does the college emphasize or encourage the following? Please mark the appropriate response using the scale immediately below.

Very high degree of emphasis or encouragement here		*Moderate degree of emphasis or encouragement here*			*No emphasis or encouragement here*	
7	**6**	**5**	**4**	**3**	**2**	**1**

____ 16. Activities outside the classroom designed specifically to enhance students' **academic** development

____ 17. Activities outside the classroom designed specifically to enhance students' personal non-academic development

____ 18. The engaging in professional activities outside the college by faculty members and administrators

____ 19. College-community or college-environment relations

SECTION FOUR INSTRUCTIONS

Please mark the appropriate response using the scale immediately below.

A very large number or amount			*A moderate number or amount*			*None*
7	**6**	**5**	**4**	**3**	**2**	**1**

____ 20. How many career development opportunities are provided for students at this college?

____ 21. How much would you say students develop and mature in non-academic areas (e.g., socially, emotionally, culturally, etc.) directly as a result of their experiences at this college?

____ 22. How many faculty members and administrators at this college would you say serve the community in government, on boards or committees, as consultants, or in other capacities?

____ 23. How many community-oriented programs, workshops, projects, or activities would you estimate were sponsored by this college last year?

SECTION FIVE INSTRUCTIONS

Please mark the appropriate response using the scale immediately below.

7 – Almost all
6 – A large majority
5 – More than half
4 – About half
3 – Less than half
2 – A small minority
1 – Almost none

____ 24. How many faculty members would you say have respected reputations in their respective academic fields?

____ 25. How many students would you say engage in extra academic work (e.g., reading, studying, writing, etc.) over and above what is specifically assigned in the classroom?

____ 26. What proportion of the students who graduated from this college last year and entered into the labor market would you estimate obtained employment in their major field of study?

____ 27. How many students would you say attend this college to fulfill definite career or occupational goals as opposed to attend for social, athletic, financial, or other reasons?

____ 28. Approximately what proportion of the courses offered at this college are designed to be career oriented or occupation-related as opposed to literal education, personal development, etc.?

____ 29. Of those students who went on the job market after graduating from this college last year, how many would you say obtained the job of their first choice as opposed to settling for a less than optimal choice?

____ 30. Think of those students who have obtained employment after graduating from this college. For how many of them was career training received at this institution important in helping them obtain their job?

____ 31. If given the chance of taking a similar job at another school of his/her choice, how many faculty members do you think would opt for leaving this school rather than staying?

____ 32. If given the chance of taking a similar job at another school of his/her choice, how many administrators do you think would opt for leaving this school rather than staying?

____ 33. Estimate how many faculty members at this college are personally satisfied with their employment.

____ 34. Estimate how many administrators at this college are personally satisfied with their employment.

____ 35. Estimate how many faculty members are personally satisfied with the way things are done around this school.

____ 36. Estimate how many administrators are personally satisfied with the way things are done around this school.

____ 37. Approximately what proportion of the faculty members and administrators at this college attend a conference or workshop specifically oriented toward professional and/or personal development last year?

____ 38. How many of the faculty members at this college would you say published a book or an article in a professional journal, or displayed a work of art in a show last year?

____ 39. What proportion of the faculty members would you estimate teach at the "cutting edge" of their field (i.e., required **current** journal articles as reading, revise syllabi at least yearly, discuss current issues in the field, etc.)?

____ 40. How many faculty members at this college would you estimate have at some time received an academic award or honor such as teaching, research, or professional award, or a listing in a national honorary directory?

____ 41. How many faculty members at this college are actively engaged now in professional development activities (e.g., doing research, getting advanced degrees, etc.)?

____ 42. Colleges may be rated on the basis of their relative "drawing poser" in attracting top high school students. In relation to other community colleges with which it directly competes, what proportion of the top students attend this college rather than the competition?

SECTION SIX INSTRUCTIONS

This section asks you to rate your perceptions of the general day-to-day functioning of overall institution. Please respond by circling the number that best represents your perceptions of each item. If you agree strongly with one end of the scale, circle a number closer to that end of the scale. If you feel neutral about the item, circle a number near the middle of the scale.

How do you perceive the following?

43. Student faculty relationships

Unusual closeness, lots of informal interactions, mutual personal concern	*1*	*2*	*3*	*4*	*5*	*6*	*7*	**No closeness, most instrumental relations, little informal interaction**

44. Interdepartmental relationships in the college

Lots of coordination, joint planning, collaboration, no friction	*1*	*2*	*3*	*4*	*5*	*6*	*7*	**No joint activity, conflict, lack or coordination & communication**

45. General pattern of supervision and control

Rigid control, strict supervision, pressure for conformity	*1*	*2*	*3*	*4*	*5*	*6*	*7*	**Respect for differences, personal freedom, individual autonomy**

46. Equity of treatment and rewards

People treated fairly & rewarded equitably	*1*	*2*	*3*	*4*	*5*	*6*	*7*	**Favoritism & inequity present, unfair treatment exists**

47. Recognition and rewards received for good work from supervisors

Recognition received for good work, rewarded for success	*1*	*2*	*3*	*4*	*5*	*6*	*7*	**No rewards for good work, no one recognized for success**

48. The amount of information or feedback you receive

Feel informed, in-the-know, information always available	*1*	*2*	*3*	*4*	*5*	*6*	*7*	**Feel isolated, out-of-it, information never available**

49. Type of communication that is typical

Guarded, screened, cautious, formal	*1*	*2*	*3*	*4*	*5*	*6*	*7*	**Open, authentic, personal, free**

50. The general social environment

Cooperative, supportive, mutual concern for others, humane	*1*	*2*	*3*	*4*	*5*	*6*	*7*	**Competitive, no support, unsympathetic, "every person for themselves"**

51. The flexibility of the administration

Willing to change, adaptable, progressive, flexible	*1*	*2*	*3*	*4*	*5*	*6*	*7*	**Rigid, unwilling to change, stagnant, unyielding**

52. General levels of trust among people here

High suspicion, fear, distrust, insecurity	*1*	*2*	*3*	*4*	*5*	*6*	*7*	**High trust, security, openness**

53. Conflicts and friction in the college

Large amount of conflict, disagreements, anxiety, friction	*1*	*2*	*3*	*4*	*5*	*6*	*7*	**No friction or conflicts, friendly, collaborative**

54. Resolution of disagreements or conflicts

Imposition, avoidance, dictum, suppression, bad feelings result	*1*	*2*	*3*	*4*	*5*	*6*	*7*	**Face-to-face, compromise, democratically, positive feelings result**

55. Use of talent and expertise of faculty members and administrators

Competencies & talents used maximally, chances for fulfillment & development	*1*	*2*	*3*	*4*	*5*	*6*	*7*	**Competencies not used, no opportunities for growth, talents unused**

56. Organizational health of the college

College runs smoothly, healthy organization, productive internal functioning	*1*	*2*	*3*	*4*	*5*	*6*	*7*	**College runs poorly, unhealthy organization, unproductive internal functioning**

57. Long term planning and goal setting

Muck goal directed activity, long-term planning, continuous goal assessments	*1*	*2*	*3*	*4*	*5*	*6*	*7*	**No goal directed activity, no planning, no goal assessments**

Thank you for your valuable time!

COMMUNITY COLLEGE ORGANIZATIONAL SURVEY KEY

SCALE

1 – Student Educational Satisfaction
2 – Student Academic Development
3 – Student Career Development
4 – Student Personal Development
5 – Faculty and Administrator Employment Satisfaction
6 – Professional Development and Quality of the Faculty
7 – System Openness and Community Interaction
8 – Ability to Acquire Resources
9 – Organizational Health

ITEM	**SCALE**	**ITEM**	**SCALE**	**ITEM**	**SCALE**
1	2	21	4	41	6
2	4	22	7	42	8
3	7	23	7	43	9
4	8	24	6	44	9
5	8	25	2	*45	9
6	8	26	3	46	9
7	8	27	3	47	9
8	1	28	3	48	9
9	1	29	3	*49	9
*10	1	30	3	50	9
*11	1	*31	5	51	9
*12	1	*32	5	*52	9
13	2	33	5	*53	9
14	2	34	5	*54	9
15	4	35	5	55	9
16	2	36	5	56	9
17	4	37	6	57	9
18	7	38	6		
19	7	39	6		
20	3	40	6		

***Reverse Score**

APPENDIX C

RETIRED PRESIDENTS INTERVIEW SCRIPT

Retired Presidents Open-Ended Decision Making Interview Protocol

Hello, this is Brian Mann a doctoral student at the University of Missouri in Kansas City and I am conducting interviews with retired community college presidents as part of a dissertation study dealing with decision-making at the senior administrator level of community colleges. Is this ______________________? Do you have 30 to 45 minutes to answer a few questions related to this study? Do I have your permission to record this interview? [If the answer is yes turn the tape recorder on, if no thank them for their time and end the call]. To confirm your answer for the tape recorder I need to repeat that last question; do I have your permission to record this interview? Thank you the interview will now begin.

What is your name?

What community colleges where you president of?

How long where you a community college president?

Approximately from what date to what date where you employed as a community college president?

What other positions have you held in community colleges?

A. Please describe the five most common critical decisions you have had to make in your tenure as a community college president:

1.

2.

3.

4.

5.

B. What information did you most commonly use to help make decision (repeat answers from question 1)?

1.

2.

3.

4.

5.

C. What information was available to you to help make decision (repeat answers from question 1)?

1.

2.

3.

4.

5.

D. What information do you wish you would have had available to you to help make decision (repeat answers from question 1)?

1.

2.

3.

4.

5.

That is the end of the interview. Do you have any questions? If you think of anything that you would like to add to your responses or have any questions you may reach me at (816) 932-1024. Thank you for your time and have a pleasant morning/afternoon/evening.

APPENDIX D

RETIRED PRESIDENTS INTERVIEW DATA CATEGORIES

Retired President Interviews Consolidation #2
May 30, 2001

A. Please describe the five most common critical decisions you have had to make in your tenure as a community college president.

BROAD THEMES:
Personnel
Board/District
Community
Facilities
Budget
Faculty
Political
Culture
Program Development
Administrative
Planning

I. PERSONNEL (5/5)

A. Please describe the five most common critical decisions you have had to make in your tenure as a community college president.

1. Negotiations with and between employee groups (e.g. salary negotiations) (4)
2. Hiring, firing, training, and promoting employees (4)
3. Employee satisfaction, morale, working conditions (3)
4. General employee problems (2)
5. Designing, approving, following grievance procedures (1)

B. What information did you most commonly use to help make decisions?

1. Quantitative personnel data such as salary data, personnel records, cost of living data, potential employee availability, faculty to student ratio (7)
2. Informal conversations with faculty, staff, administrators, outsiders (e.g. other CEOs) (5)
3. Formal conversations with employees (e.g. meetings and interviews) (3)
4. Formal reports (e.g. government and internal employee reports) (2)
5. Subjective observations (2)
6. Written policies (2)
7. Look at what other community colleges are doing (1)

C. What information do you wish you would have had available to you to help make decisions?

1. Data on other community colleges (3)
2. Standardized, timely, interpreted, readable information such as internal salary information, student transfer and enrollment trends, class size, and faculty to student ratios (2)
3. More detailed and honest recommendations (1)
4. Accurate job descriptions (1)
5. Better channels to talk to faculty (1)

II. BOARD (5/5)

A. Please describe the five most common critical decisions you have had to make in your tenure as a community college president.

1. What issues and recommendations to take to the board such as operational recommendations, salary recommendations, personnel recommendations, financial recommendations, planning, goals and objectives for the colleges, political recommendations, tax rate increases, tax transfer, annexation of neighboring school districts, bond issues for constructing buildings (2)
2. Determining what the board wants (1)
3. Policy (1)

4. Problem solving (1)

B. What information did you most commonly use to help make?

1. Surveys of students, employers, internal employees, and community (4)
2. Internal and external reports containing both qualitative and quantitative data (3)
3. Recommendations from subordinates and officers (3)
4. Board member input regarding objectives, concerns, and goals (3)
5. Economic data such as job market data and consumer confidence (2)
6. Opinions of others (2)
7. Student and faculty data such as student demographics and aptitudes, and ratio of students to advisors (2)
8. Political climate (state and national) (1)
9. Business and religious community climate (1)
10. Main stream media (1)
11. Policies of other community colleges (1)
12. Feasibility studies (1)
13. Budget data (1)
14. Personal judgement (1)
15. Industry standards (1)

C. What information do you wish you would have had available to you to help make decisions?

1. Improved quality of information (3)
2. Nothing (2)
3. Internal opinion information (1)
4. Comparative salary information from other colleges (1)
5. Assessment information of student outcomes such as graduate satisfaction and skill level (1)
6. Employer satisfaction with students (1)

III. COMMUNITY (4/5)

A. Please describe the five most common critical decisions you have had to make in your tenure as a community college president.

1. What programs to offer (2)
2. How to respond to needs of the business community (1)
3. Sell community college concept to the community (1)
4. Where to offer programs (1)
5. What community pressures to respond to (1)

B. What information did you most commonly use to help make?

1. Talking to staff, businesses, community organizations, high schools, board, and other colleges (4)
2. Availability of funds and resources including current budget (3)
3. Surveys of community, businesses, and students (3)
4. Feasibility studies including number of students, community/student demographics, and trends in higher education (2)
5. Program evaluations (1)
6. Mainstream media
7. Internal meeting reports

C. What information do you wish you would have had available to you to help make decisions?

1. Better community contacts such as the mayor and business leaders (1)

2. Surveys of public opinion and faculty and staff (1)
3. Community census data (1)
4. Programs offered and needed by local K-12 schools (1)
5. Profiles of student skill levels (1)
6. Easily accessible business information such as employment projections, personnel needs projections, and occupational skill and aptitude needs (1)

IV. FACILITIES (4/5)

A. Please describe the five most common critical decisions you have had to make in your tenure as a community college president.

1. Facilities planning such as design, location, and needs (4)
2. Opening and closing facilities (2)
3. Resources allocation (1)
4. Providing opportunities to disadvantaged populations (1)

B. What information did you most commonly use to help make?

1. Formal studies such as feasibility studies, needs assessments, and comparative studies (4)
2. Conversations with community, business leaders, and members of the state legislature (4)
3. Various modes of determining business and community employment and training needs (e.g. literature reviews and chamber of commernce reports) (4)
4. Surveys of the community, students, and businesses (3)
5. Enrollment projections (2)
6. Financial data (1)
7. Assessed valuation
8. Student data such as college transfer patterns and graduate results (1)
9. Program requirements (1)
10. Observations (1)
11. Look at other colleges (1)

C. What information do you wish you would have had available to you to help make decisions?

1. Future projections and trends in technology (1)
2. Information on what colleges in other parts of the country (1)
3. Current facilities usage (1)
4. Specific square foot and unit costs (1)

V. BUDGET (2/5)

A. Please describe the five most common critical decisions you have had to make in your tenure as a community college president.

1. Developing guidelines on how much was spent a year, board recommendations, what the faculty to student ratio would be, how many instructors/staff/physical plant personnel. How much capital to buy, who would get capital, financial priorities

B. What information did you most commonly use to help make?

1. Financial/budget projections (2)
2. Tax levee (2)
3. State aided tuition and student fees (2)
4. Needed funds (1)
5. Other income (1)

C. What information do you wish you would have had available to you to help make decisions?

1. Better assessed valuation (2)
2. Info on the economy (1)
3. Student enrollment models (1)
4. Program needs (1)
5. State funding projections (1)

VI. FACULTY (2/5)

A. Please describe the five most common critical decisions you have had to make in your tenure as a community college president.

1. How to change culture of institution such as getting the faculty to work together to serve students (2)
2. Faulty negotiations (1)
3. How administrators interface with faculty (1)
4. Improved interface between community college and four year colleges and high schools (1)

B. What information did you most commonly use to help make?

1. Subjective information such as observations and conversations for the purpose of getting to know people and group dynamics (2)
2. Personnel records (1)
3. Attend faculty meetings (1)
4. Needs assessments (1)
5. Student data such as graduate results and college transfer (1)
6. Surveys (1)
7. Focus committee (1)

C. What information do you wish you would have had available to you to help make decisions?

1. More reliable and standardized faculty opinion information (2)

VII. POLITICAL (2/5)

A. Please describe the five most common critical decisions you have had to make in your tenure as a community college president.

1. Student censorship (1)
2. How and for what to lobby at the state level for new programs and funds (1)
3. How to approach state agencies for funds (1)

B. What information did you most commonly use to help make?

1. Informal channels – verbal and observation (1)
2. Verbal info from lobbyist at the state level (1)

C. What information do you wish you would have had available to you to help make decisions?

1. More info on what federal funds were available (1)
2. Honest legislative opinion (1)
3. Trend data (1)

VIII. CULTURE (2/5)

A. Please describe the five most common critical decisions you have had to make in your tenure as a community college president.

1. Changing culture such as how faculty teach and developing internal learning communities (2)
2. Personnel changes (1)
3. Faculty negotiations (1)
4. Involving faculty and staff in the decision making and program development process (1)

B. What information did you most commonly use to help make?

1. Observations of faculty personality, philosophy, and interactions (2)
2. Faculty personnel records (1)
3. Looking at what other colleges have done through site visits, case studies, and literature reviews (1)

C. What information do you wish you would have had available to you to help make decisions?

1. More systematic and standardized information (1)
2. More student outcome data such as student satisfaction, student skill level and competencies, and student employment after graduation (1)
3. Employee satisfaction (1)

IX. PROGRAM DEVELOPMENT (2/5)

Please describe the five most common critical decisions you have had to make in your tenure as a community college president.

1. Resource management including allocation of resources, resource sacrifices, and equipment updates (1)
2. How to approach district office (1)
3. What direction to take the college (1)
4. New program development and planning (1)

What information did you most commonly use to help make?

1. Talking to others such as employees and business leaders (1)
2. Employment projections (1)
3. Employee studies (1)
4. Interviews (1)
5. Recommendations (1)
6. Knowing personnel talents and limitations (1)

What information do you wish you would have had available to you to help make decisions?

1. Equipment replacement schedules (1)

X. ADMINISTRATIVE (1/5)

A. Please describe the five most common critical decisions you have had to make in your tenure as a community college president.

1. Day-to-day administration (1)
2. Short and long term facilities planning (1)

B. What information did you most commonly use to help make?

1. Recommendations, personnel characteristics, personnel salary needs, verbal reports of business needs, employee projections, faculty capabilities, salary projections, employee studies, interviews, recommendations, and meetings (1)

C. What information do you wish you would have had available to you to help make decisions?

1. Implications of recommendations (1)
2. Timely info (1)

XI. PLANNING (1/5)

A. Please describe the five most common critical decisions you have had to make in your tenure as a community college president.

1. Short and long term planning (1)

B. What information did you most commonly use to help make?

1. Feasibility study, enrollment projections, employer needs, financial capabilities, assessed valuation, conversations with businesses (1)

C. What information do you wish you would have had available to you to help make decisions?

1. Future projections, facilities needs projections, knowing what was going on in other colleges around the country (1)

APPENDIX E

RETIRED PRESIDENTS INTERVIEW DATA SUBCATEGORIES

Decision Making Survey Subcategories

Definitions

___ Input Information – Information that precedes the educational and administrative processes such as availability of financial resources, community populations trends and needs, and student and employee preconceived perceptions.

___ Process Information – Information yielded from the educational and administrative processes such as faculty to student ratio, utilization of instructional support services and facilities, and faculty and community attitudes toward students.

___ Output Information – Information derived from the results of the educational and administrative processes such as student transfer and job placement, employer satisfaction with student skills, and economic impact.

___ Objective Information – Information in "hard" numeric form that is free from human judgement such as student enrollment numbers, faculty to student ratio, cost over expense ratios, and institutional budget allocations.

___ Subjective Information – Information that is primarily made up of human perceptions such as interviews, focus groups, surveys, and conversations.

Personnel Related Decisions

1. Negotiating salary agreements with organized groups of employees.
   a. Information gathered from conversations you had with employees, colleagues, supervisors, or others. (INPUT SUB)
   b. Internal personnel information such as current salary ranges, faculty to student ratio, and salary budget figures. (PROCESS OBJ)
   c. External personnel information such as national employment trends, local cost of living data, and local salary ranges. (INPUT OBJ)
   d. Personal perceptions and judgements of individuals, groups, and/or negotiation process developed before or during negotiations. (PROCESS SUB)

2a. Hiring employees
   a. Information generated from formal personnel records such as employee years of experience, positions held, salary history, and aggregation of past performance appraisals. (OUTPUT OBJ)
   b. Information gathered by talking to professional and personal references, past and current coworkers and supervisors, and others regarding individual performance (OUTPUT SUB)
   c. Information given to you by subordinates and colleagues in the form of recommendations. (PROCESS SUB)
   d. Internal personnel information such as faculty to student ratio, availability of funds for salaries, and written policies and procedures. (PROCESS OBJ)

2b. Firing employees
   a. Information generated from formal personnel records such as employee years of experience, positions held, salary history, and aggregation of past performance appraisals. (OUTPUT OBJ)
   b. Information gathered by talking to professional and personal references, past and current coworkers and supervisors, and others regarding individual performance (OUTPUT SUB)

- c. Information given to you by subordinates and colleagues in the form of recommendations. (PROCESS SUB)
- d. Internal personnel information such as faculty to student ratio, availability of funds for salaries, and written policies and procedures. (PROCESS OBJ)

2c. Promoting employees

- a. Information generated from formal personnel records such as employee years of experience, positions held, salary history, and aggregation of past performance appraisals. (OUTPUT OBJ)
- b. Information gathered by talking to professional and personal references, past and current coworkers and supervisors, and others regarding individual performance (OUTPUT SUB)
- c. Information given to you by subordinates and colleagues in the form of recommendations. (PROCESS SUB)
- d. Internal personnel information such as faculty to student ratio, availability of funds for salaries, and written policies and procedures. (PROCESS OBJ)

3. Institutional employee satisfaction and morale.
   - a. Information gathered through formal research including review of the literature, and studies of other colleges that have instituted employee satisfaction initiatives. (INPUT OBJ)
   - b. Information gathered through conversations and surveys of internal employees and students regarding college climate and working conditions. (INPUT SUB)
   - c. Information collected from institutional records or studies of employee turnover, measures of employee productivity, and student turnover. (OUTPUT OBJ)
   - d. Employee and student perceptions gathered through such channels as employee exit interviews, student surveys, and conversations. (OUTPUT SUB)

4. In general, how long do you take to make a decision related to personnel issues? Please mark the appropriate response using the scale immediately below.

Board of Trustees or District Office Related Decisions

1. Making financial recommendations to the board or district office.
   - a. Information generated from recommendations from subordinates, colleagues, and/or external confidants. (PROCESS SUB)
   - b. Information gathered from formal internal budget reports including current revenue and expenses. (PROCESS OBJ)
   - c. Information extracted from economic reports including job market projections, community population trends, and consumer confidence. (INPUT OBJ)
   - d. Information generated from surveys and/or interviews of students, employees, and/or community to identify priorities and gaps. (INPUT SUB)

2a. Making recommendations to the board or district office regarding institutional goals and objectives.

- a. Information gathered through conversations with students, employees, and community members regarding the needs and wants of constituents and stakeholders. (PROCESS SUB)
- b. Formal internal reports supporting recommendations including such quantitative information as current revenue, operational costs, and student enrollments. (PROCESS OBJ)
- c. Information generated from formal studies of student outcomes including student transfer rate and destination, post college employment, and average post college salary (OUTPUT OBJ)
- d. Information gathered through conversations with business and community leaders, students, and faculty regarding your institution's performance. (OUTPUT SUB)

2b. Making recommendations to the board or district office regarding institutional policies.

a. Information gathered through conversations with students, employees, and community members regarding the needs and wants of constituents and stakeholders. (PROCESS SUB)
b. Formal internal reports supporting recommendations including such quantitative information as current revenue, operational costs, and student enrollments. (PROCESS OBJ)
c. Information generated from formal studies of student outcomes including student transfer rate and destination, post college employment, and average post college salary (OUTPUT OBJ)
d. Information gathered through conversations with business and community leaders, students, and faculty regarding your institution's performance. (OUTPUT SUB)

3a. Implementing board or district office mandates.
a. Information gathered from talking to board members or district officials to gain clarification and guidance. (INPUT SUB)
b. Information gathered from studying similar situations in the past in which you interpreted board mandates or recommendations. (OUTPUT SUB)
c. Quantitative information generated from formal studies investigating the outcomes of similar initiatives implemented at other institutions. (OUTPUT OBJ)
d. Quantitative information related to implementing the mandate or recommendation such as financial resources and personnel availability.

3b. Implementing board or district office recommendations.
a. Information gathered from talking to board members or district officials to gain clarification and guidance. (INPUT SUB)
b. Information gathered from studying similar situations in the past in which you interpreted board mandates or recommendations. (OUTPUT SUB)
c. Quantitative information generated from formal studies investigating the outcomes of similar initiatives implemented at other institutions. (OUTPUT OBJ)
d. Quantitative information related to implementing the mandate or recommendation such as financial resources and personnel availability.

5. In general, how long do you take to make a decision related to board of trustees or district issues? Please mark the appropriate response using the scale immediately below.

Community Related Decisions

1. What college based programs to offer the community.
a. Information gathered through conversations with employees, students, and community members in an effort to identify and understand community needs. (INPUT SUB)
b. Information generated from formal studies of community and potential student demographics, economic trends, and locations of dense and under served populations. (INPUT OBJ)
c. Information gathered from studies of and/or the gap between the current student population and current programs offered. (PROCESS SUB)
d. Information generated from studies of college financial, facility, and personnel availability. (PROCESS OBJ)

2. How to respond to the needs of the business community.
a. Information gathered from the study of past programs offered to or provided for the business community including cost versus revenue, program longevity, and program enrollment numbers. (OUTPUT OBJ)
b. Information generated from talking with business representatives regarding strengths and weaknesses of programs implemented in the past. (OUTPUT SUB)
c. Information gathered though conversations and/or surveys with business representatives, students, and community members in an effort to identify training needs and interests. (INPUT SUB)

   d. Information generated from formal studies including community employment projections, federal and state reports of market and business trends, and population trends. (INPUT OBJ)

3. How to "sell" the community college concept to the community.
   a. Information gathered from surveys and/or conversations with the community in an effort to determine current perception and level of satisfaction with the institution. (PROCESS SUB)
   b. Information generated from studies of the number of students served by programs currently offered, internal enrollment trends, and demographics of the population currently served by the institution. (PROCESS OBJ)
   c. Information generated from studies of students, the community, and businesses regarding number of graduates, number of graduates employed, graduate salary, and number of minority students served. (OUCOME OBJ)
   d. Information gathered from interviews or surveys of other colleges in an effort to identify successful strategies and pitfalls. (OUTPUT SUB)

4. In general, how long do you take to make a decision related to community issues? Please mark the appropriate response using the scale immediately below.

Facility Related Decisions

1. Determining facility design and layout.
   a. Information gathered from formal studies of current facilities usage. (PROCESS OBJ)
   b. Information generated from surveys or interviews of students and employees regarding facility needs and personal preferences. (INPUT SUB)
   c. Information gathered from studies of facilities at other colleges. (INPUT OBJ)
   d. Information generated through conversations with or surveys of students and employees regarding what facility features currently work particularly well and those that are problematic. (PROCESS SUB)

2a. Opening facilities.
   a. Information gathered through formal studies of community and business needs including population trends, enrollment projections, and community and economic growth. (INPUT OBJ)
   b. Information generated from conversations with business and community leaders regarding training and educational needs, and potential funding sources. (INPUT SUB)
   c. Information gathered from studying outcomes of current programs including cost benefit analysis, program growth, and trends in the program field of study. (OUTPUT OBJ)
   d. Information gathered through surveying or interviewing graduating or formal students, community members, and business leaders regarding satisfaction with educational programs and graduates (OUTPUT SUB)

2b. Closing facilities.
   a. Information gathered through formal studies of community and business needs including population trends, enrollment projections, and community and economic growth. (INPUT OBJ)
   b. Information generated from conversations with business and community leaders regarding training and educational needs, and potential funding sources. (INPUT SUB)
   c. Information gathered from studying outcomes of current programs including cost benefit analysis, program growth, and trends in the program field of study. (OUTPUT OBJ)
   d. Information gathered through surveying or interviewing graduating or formal students, community members, and business leaders regarding satisfaction with educational programs and graduates (OUTPUT SUB)

3a. Allocating resources for facilities improvements.

a. Information generated from studies of facility maintenance history, cost history, student and community usage history, and safety records. (OUTPUT OBJ)
b. Information gathered from surveys or interviews with students and employees who have recently utilized the facilities regarding satisfaction with and access to facilities in question. (OUTPUT SUB)
c. Information generated from reviewing budget and maintenance and construction personnel availability. (PROCESS OBJ)
d. Information gathered from conversations with maintenance personnel, employees, and/or students currently using the facilities regarding facility usage, safety concerns, and satisfaction. (PROCESS SUB)

3b. Allocating resources for facilities maintenance.

a. Information generated from studies of facility maintenance history, cost history, student and community usage history, and safety records. (OUTPUT OBJ)
b. Information gathered from surveys or interviews with students and employees who have recently utilized the facilities regarding satisfaction with and access to facilities in question. (OUTPUT SUB)
c. Information generated from reviewing budget and maintenance and construction personnel availability. (PROCESS OBJ)
d. Information gathered from conversations with maintenance personnel, employees, and/or students currently using the facilities regarding facility usage, safety concerns, and satisfaction. (PROCESS SUB)

5. In general, how long do you take to make a decision related to facilities issues? Please mark the appropriate response using the scale immediately below.

APPENDIX F

INSTRUMENT: DECISION-MAKING SURVEY

DECISION MAKING SURVEY

● BACKGROUND INFORMATION

Community College Name ______________________

Your Position ______________________________

Years in Position ________ Years Employed in Higher Education ________

Please take a few moments to think about the most important decisions you have had to make in your tenure employed as a high level administrator in a community college. Now think about the information you most frequently used to help you make those decisions.

● PERSONNEL RELATED DECISIONS

Please choose and circle the letter of ONE of the sources of information described below that you would be MOST LIKELY to use when making decisions related to:

2. Negotiating salary agreements with organized groups of employees.

e. Information gathered from conversations you had with employees, colleagues, supervisors, or others.
f. Internal personnel information such as current salary ranges, faculty to student ratio, and salary budget figures.
g. External personnel information such as national employment trends, local cost of living data, and local salary ranges.
h. Personal perceptions and judgements of individuals, groups, and/or negotiation process developed before or during negotiations.

2a. Hiring employees

e. Information generated from formal personnel records such as employee years of experience, positions held, salary history, and aggregation of past performance appraisals.
f. Information gathered by talking to professional and personal references, past and current coworkers and supervisors, and others regarding individual performance
g. Information given to you by subordinates and colleagues in the form of recommendations.
h. Internal personnel information such as faculty to student ratio, availability of funds for salaries, and written policies and procedures.

2b. Firing employees

e. Information generated from formal personnel records such as employee years of experience, positions held, salary history, and aggregation of past performance appraisals.
f. Information gathered by talking to professional and personal references, past and current coworkers and supervisors, and others regarding individual performance
g. Information given to you by subordinates and colleagues in the form of recommendations.
h. Internal personnel information such as faculty to student ratio, availability of funds for salaries, and written policies and procedures.

2c. Promoting employees

- e. Information generated from formal personnel records such as employee years of experience, positions held, salary history, and aggregation of past performance appraisals.
- f. Information gathered by talking to professional and personal references, past and current coworkers and supervisors, and others regarding individual performance
- g. Information given to you by subordinates and colleagues in the form of recommendations.
- h. Internal personnel information such as faculty to student ratio, availability of funds for salaries, and written policies and procedures.

6. Institutional employee satisfaction and morale.

- e. Information gathered through formal research including review of the literature, and studies of other colleges that have instituted employee satisfaction initiatives.
- f. Information gathered through conversations and surveys of internal employees and students regarding college climate and working conditions.
- g. Information collected from institutional records or studies of employee turnover, measures of employee productivity, and student turnover.
- h. Employee and student perceptions gathered through such channels as employee exit interviews, student surveys, and conversations.

7. In general, how long do you take to make a decision related to personnel issues? Please mark the appropriate response using the scale immediately below.

A Few Days	1	2	3	4	5	6	7	***Several Months***

BOARD OF TRUSTEES OR DISTRICT OFFICE RELATED DECISIONS

Please choose ONE of the sources of information described below that you would be MOST LIKELY to use when making decisions related to:

1. Making financial recommendations to the board or district office.

- e. Information generated from recommendations from subordinates, colleagues, and/or external confidants.
- f. Information gathered from formal internal budget reports including current revenue and expenses.
- g. Information extracted from economic reports including job market projections, community population trends, and consumer confidence.
- h. Information generated from surveys and/or interviews of students, employees, and/or community to identify priorities and gaps.

2a. Making recommendations to the board or district office regarding institutional goals and objectives.

- e. Information gathered through conversations with students, employees, and community members regarding the needs and wants of constituents and stakeholders.
- f. Formal internal reports supporting recommendations including such quantitative information as current revenue, operational costs, and student enrollments.
- g. Information generated from formal studies of student outcomes including student transfer rate and destination, post college employment, and average post college salary
- h. Information gathered through conversations with business and community leaders, students, and faculty regarding your institution's performance.

2b. Making recommendations to the board or district office regarding institutional policies.

e. Information gathered through conversations with students, employees, and community members regarding the needs and wants of constituents and stakeholders.
f. Formal internal reports supporting recommendations including such quantitative information as current revenue, operational costs, and student enrollments.
g. Information generated from formal studies of student outcomes including student transfer rate and destination, post college employment, and average post college salary
h. Information gathered through conversations with business and community leaders, students, and faculty regarding your institution's performance.

3a. Implementing board or district office mandates.

e. Information gathered from talking to board members or district officials to gain clarification and guidance.
f. Information gathered from studying similar situations in the past in which you interpreted board mandates or recommendations.
g. Quantitative information generated from formal studies investigating the outcomes of similar initiatives implemented at other institutions.
h. Quantitative information related to implementing the mandate or recommendation such as financial resources and personnel availability.

3b. Implementing board or district office recommendations.

e. Information gathered from talking to board members or district officials to gain clarification and guidance.
f. Information gathered from studying similar situations in the past in which you interpreted board mandates or recommendations.
g. Quantitative information generated from formal studies investigating the outcomes of similar initiatives implemented at other institutions.
h. Quantitative information related to implementing the mandate or recommendation such as financial resources and personnel availability.

4. In general, how long do you take to make a decision related to board of trustees or district issues? Please mark the appropriate response using the scale immediately below.

A Few Days	1	2	3	4	5	6	7	***Several Months***

● COMMUNITY RELATED DECISIONS

Please choose ONE of the sources of information described below that you would be MOST LIKELY to use when making decisions related to:

6. What college based programs to offer the community.

e. Information gathered through conversations with employees, students, and community members in an effort to identify and understand community needs.
f. Information generated from formal studies of community and potential student demographics, economic trends, and locations of dense and under served populations.
g. Information gathered from studies of and/or the gap between the current student population and current programs offered.
h. Information generated from studies of college financial, facility, and personnel availability.

7. How to respond to the needs of the business community.

e. Information gathered from the study of past programs offered to or provided for the business community including cost versus revenue, program longevity, and program enrollment numbers.
f. Information generated from talking with business representatives regarding strengths and weaknesses of programs implemented in the past.
g. Information gathered though conversations and/or surveys with business representatives, students, and community members in an effort to identify training needs and interests.
h. Information generated from formal studies including community employment projections, federal and state reports of market and business trends, and population trends.

8. How to "sell" the community college concept to the community.

e. Information gathered from surveys and/or conversations with the community in an effort to determine current perception and level of satisfaction with the institution.
f. Information generated from studies of the number of students served by programs currently offered, internal enrollment trends, and demographics of the population currently served by the institution.
g. Information generated from studies of students, the community, and businesses regarding number of graduates, number of graduates employed, graduate salary, and number of minority students served.
h. Information gathered from interviews or surveys of other colleges in an effort to identify successful strategies and pitfalls.

9. In general, how long do you take to make a decision related to community issues? Please mark the appropriate response using the scale immediately below.

A Few Days 1 2 3 4 5 6 7 *Several Months*

FACILITY RELATED DECISIONS

Please choose ONE of the sources of information described below that you would be MOST LIKELY to use when making decisions related to:

2. Determining facility design and layout.

e. Information gathered from formal studies of current facilities usage.
f. Information generated from surveys or interviews of students and employees regarding facility needs and personal preferences.
g. Information gathered from studies of facilities at other colleges.
h. Information generated through conversations with or surveys of students and employees regarding what facility features currently work particularly well and those that are problematic.

2a. Opening facilities.

e. Information gathered through formal studies of community and business needs including population trends, enrollment projections, and community and economic growth.
f. Information generated from conversations with business and community leaders regarding training and educational needs, and potential funding sources.
g. Information gathered from studying outcomes of current programs including cost benefit analysis, program growth, and trends in the program field of study.
h. Information gathered through surveying or interviewing graduating or formal students, community members, and business leaders regarding satisfaction with educational programs and graduates

2b. Closing facilities.

e. Information gathered through formal studies of community and business needs including population trends, enrollment projections, and community and economic growth.
f. Information generated from conversations with business and community leaders regarding training and educational needs, and potential funding sources.
g. Information gathered from studying outcomes of current programs including cost benefit analysis, program growth, and trends in the program field of study.
h. Information gathered through surveying or interviewing graduating or formal students, community members, and business leaders regarding satisfaction with educational programs and graduates

3a. Allocating resources for facilities improvements.

e. Information generated from studies of facility maintenance history, cost history, student and community usage history, and safety records.
f. Information gathered from surveys or interviews with students and employees who have recently utilized the facilities regarding satisfaction with and access to facilities in question.
g. Information generated from reviewing budget and maintenance and construction personnel availability.
h. Information gathered from conversations with maintenance personnel, employees, and/or students currently using the facilities regarding facility usage, safety concerns, and satisfaction.

3b. Allocating resources for facilities maintenance.

e. Information generated from studies of facility maintenance history, cost history, student and community usage history, and safety records.
f. Information gathered from surveys or interviews with students and employees who have recently utilized the facilities regarding satisfaction with and access to facilities in question.
g. Information generated from reviewing budget and maintenance and construction personnel availability.
h. Information gathered from conversations with maintenance personnel, employees, and/or students currently using the facilities regarding facility usage, safety concerns, and satisfaction.

4. In general, how long do you take to make a decision related to facilities issues? Please mark the appropriate response using the scale immediately below.

A Few Days 1 2 3 4 5 6 7 *Several Months*

❷ OVERALL INFORMATION UTILIZED FOR DECISION MAKING

Please choose ONE of the classifications of information that best characterizes the information you most commonly used to help you make important decisions.

___ **Input Information** – Information that precedes the educational and administrative processes such as availability of financial resources, community populations trends and needs, and student and employee preconceived perceptions.

___ **Process Information** – Information yielded from the educational and administrative processes such as faculty to student ratio, utilization of instructional support services and facilities, administrative recommendations, and faculty and community attitudes toward students.

___ **Outcome Information** – Information derived from the results of the educational and administrative processes such as student transfer and job placement, employer satisfaction with student skills, and economic impact.

Again please choose ONE of the classifications of information that best characterizes the information you most commonly used to help you make important decisions.

___ **Objective Information** – Information in "hard" numeric form that is free from human judgement such as student enrollment numbers, faculty to student ratio, cost over expense ratios, and institutional budget allocations.

___ **Subjective Information** – Information that is primarily made up of human perceptions such as interviews, focus groups, surveys, and conversations.

Thank you for your valuable time!

APPENDIX G

INITIAL CONTACT E-MAIL

Good Morning:

My name is Brian Mann and I am a doctoral candidate at the University of Missouri in Kansas City who is eagerly trying to finish the dissertation requirement of the Ed.D. program. This dissertation study focuses on the decision-making processes of high-level community college administrators such as you. The purpose of this e-mail is to request your participation.

In a few days you will be receiving an envelop containing a cover letter, two short surveys, and a return envelope. The surveys take no longer than 30 minutes total to complete.

Sample size and response rate, as you know, are critical to any study and this one is no different. Please take a few minutes to fill out and return the surveys in the postage paid envelope provided by July 19th.

Your individual responses and institution will be kept in the strictest of confidence and only aggregate data will be used for the study.

If you wish to receive a copy of the results and/or the entire dissertation please make a note of your request on the front of either of the two surveys or contact me directly at (816) XXX-XXXX or by e-mail at bmann@xxx.xxx. Thank you for your valuable time.

Sincerely,

Brian Mann
University of Missouri-Kansas City

APPENDIX H

COVER LETTER

DISSERTATION REQUEST FOR PARTICPATION

Brian Mann

Address

July 8, 2001

Dear XXXXXX:

My name is Brian Mann and I am a doctoral candidate at the University of Missouri in Kansas City who is eagerly trying to finish the dissertation requirement of the Ed.D. program. This dissertation study focuses on the decision-making processes of high-level community college administrators such as you.

Sample size and response rate, as you know, are critical to any study and this one is no different. The enclosed surveys take no more than 30 minutes total to complete. Please help me to complete my doctorate degree by taking a few minutes to fill out and return the enclosed surveys in the postage paid envelope provided by July 19th. Your individual responses and institution will be kept in the strictest of confidence and only aggregate data will be used for the study. Your time and efforts will be greatly appreciated.

If you wish to receive a copy of the results and/or the entire dissertation please make a note of your request on the front of either of the two surveys or contact me directly at (816) XXX-XXXX or by e-mail at bmann@xxx.xxx. Thank you for your valuable time.

Sincerely,

Brian Mann

APPENDIX I

ORGANIZATIONAL EFFECTIVENESS SURVEY DESCRIPTIVE STATISTICS

Item Number	Mean	Median	Standard Deviation	Missing
1	1.98	2.00	.74	0
2	2.42	2.00	1.03	0
3	3.64	4.00	1.14	0
4	2.42	2.00	.95	0
5	3.22	3.00	1.11	0
6	2.92	3.00	1.16	0
7	3.08	3.00	1.14	0
8	4.02	4.00	1.22	1
9	2.82	3.00	.98	0
10	2.00	2.00	.70	0
11	1.98	2.00	.74	0
12	2.43	3.00	.71	1
13	2.89	3.00	1.28	1
14	2.87	3.00	1.28	4
15	2.94	3.00	.92	1
16	3.02	3.00	1.15	0
17	4.66	5.00	1.35	0
18	2.48	2.50	.97	0
19	2.65	3.00	.97	1

20	3.32	3.50	1.24	0
21	2.92	3.00	1.01	0
22	2.80	3.00	.90	0
23	2.62	3.00	1.05	0
24	2.08	2.00	.75	0
25	3.00	3.00	.82	1
26	3.44	4.00	1.01	0
27	2.68	3.00	1.06	0
28	1.84	2.00	.65	0
29	2.81	3.00	1.07	2
30	2.06	2.00	.68	0
31	2.10	2.00	.74	0
32	2.22	2.00	.71	0
33	2.02	2.00	.62	0
34	1.98	2.00	.74	0
35	2.48	2.00	.71	0
36	2.60	3.00	.83	0
37	3.20	3.00	1.20	0
38	2.36	2.00	.80	0
39	3.10	3.00	.80	0
40	3.10	3.00	.85	1

41	2.70	2.50	.79	0
42	2.94	3.00	1.00	2
43	2.84	3.00	.82	0
44	3.06	3.00	1.02	0
45	2.36	2.00	.63	0
46	2.60	3.00	.83	0
47	3.06	3.00	1.04	0
48	2.58	2.00	.99	0
49	2.70	3.00	.95	0
50	2.36	2.00	.79	0
51	2.44	2.00	.79	0
52	2.94	3.00	.84	0
53	3.12	3.00	.96	0
54	1.96	2.00	.81	0
55	1.70	1.50	.79	0
56	2.40	2.00	.83	0
57	2.45	2.00	.74	1

APPENDIX J

DECISION-MAKING SURVEY DESCRIPTIVE STATISTICS

Table 1

Decision-Making Survey Descriptive Statistics (Non-Scaled Items)

Survey Section	Item Number	Item Choices	Frequency of Item Selection	Valid Percentage
Personnel Related Decisions	1	a	3	6.3%
		b	20	41.7%
		c	20	41.7%
		d	4	8.3%
	2a	a	19	38.8%
		b	21	42.9%
		c	7	14.3%
		d	2	2%
	2b	a	17	34.7%
		b	18	36.7%
		c	9	18.4%
		d	4	8.2%
	2c	a	17	35.4%
		b	22	45.8%
		c	7	14.6%
		d	1	2.1%
	3	a	7	14%
		b	38	76%
		c	2	4%
		d	2	4%

Board of Trustees or District Office Related Decisions	1	a	6	12.5%
		b	38	79.2%
		c	0	0%
		d	4	8.3%
	2a	a	20	42.6%
		b	10	21.3%
		c	10	21.3%
		d	6	12.8%
	2b	a	17	37.8%
		b	13	28.9%
		c	11	24.4%
		d	3	6.7%
	3a	a	20	42.6%
		b	8	17%
		c	4	8.5%
		d	14	29.8%
	3b	a	23	48.9%
		b	10	21.3%
		c	6	12.8%
		d	7	14.9%
Community Related Decisions	1	a	9	18.4%
		b	31	63.3%

		c	8	16.3%
		d	0	0%
	2	a	4	8.2%
		b	3	6.1%
		c	34	69.4%
		d	7	14.3%
	3	a	18	36.7%
		b	8	16.3%
		c	19	38.8%
		d	3	6.1%
Facility Related Decisions	1	a	10	20.4%
		b	14	28.6%
		c	4	8.2%
		d	20	40.8%
	2a	a	29	59.2%
		b	5	10.2%
		c	11	22.4%
		d	3	6.1%
	2b	a	21	42.9%
		b	0	0%
		c	24	49%
		d	3	6.1%

	3a	a	27	55.1%
		b	2	4.1%
		c	4	8.2%
		d	15	30.6%
	3b	a	28	57.1%
		b	2	4.1%
		c	2	4.1%
		d	16	32.7%
Overall Information Utilized for Decision-Making	1	Input Information	26	54.2%
		Process Information	16	33.3%
		Output Information	6	12.5%
	2	Objective Information	29	61.7%
		Subjective Information	18	38.3%

Table 2

Decision-Making Survey Descriptive Statistics (Scaled Items)

Survey Section	Item Number	Mean	Median	Standard Deviation
Personnel Related Decisions	4	3.07	3.00	1.39
Board of Trustees or District Office Related Decisions	4	2.98	3.00	1.78
Community Related Decisions	4	4.02	4.00	1.71
Facility Related Decisions	4	4.54	4.00	1.87

APPENDIX K

ORGANIZATIONAL EFFECTIVENESS SURVEY PERCENT OF TOTAL VARIANCE BY EXTRACTED FACTORS – ROTATED SUMS OF SQUARE LOADINGS

Factor	Percent of Variance	Cumulative Percent
1 Employee Satisfaction	18.182%	18.182%
2 Community Interaction and Service	9.490%	27.672%
3 Student Focus	7.373%	35.045%
4 Institutional Excellence	6.165%	41.210%
5 Employee Development	5.567%	46.786

APPENDIX L

ORGANIZATIONAL EFFECTIVENESS SURVEY FACTOR ANALYSIS SUMMARY

Factor	Question Number	Factor Loading
Employee Satisfaction (Factor 1)	5	-.459
	18	-.449
	31	-.569
	32	-.665
	33	-.527
	34	-.662
	35	-.549
	36	-.594
	45	.521
	48	.517
	49	.773
	50	.784
	52	.608
	54	.477
	56	.543
Community Interaction and Service (Factor 2)	3	.671
	4	.503
	7	.666
	20	.567
	22	.648
	23	.543
	26	.723
	27	.647
	29	.619
	30	.569
Student Focus (Factor 3)	2	.598
	11	.633
	12	.547
	13	-.642
	16	.440
	17	.644
	19	.650
	21	.514
	28	.464
	44	.440
	53	-.461

Institutional Excellence (Factor 4)	6	.550
	8	.687
	9	.524
	10	-.506
	24	.618
	25	.677
	40	.494
	43	-.425
Employee Development (Factor 5)	37	-.484
	41	-.670
	46	.465
	51	.615
	55	.467

APPENDIX M

ORGANIZATIONAL EFFECTIVENESS SURVEY FACTOR CORRELATION MATRIX

Factor	1	2	3	4	5
1	1.00				
2	.092	1.00			
3	.234	.349	1.00		
4	.076	.290	.350	1.00	
5	.191	-.103	-.092	.112	1.00

APPENDIX N

DECISION-MAKING SURVEY PERCENT OF TOTAL VARIANCE BY EXTRACTED FACTORS – ROTATED SUMS OF SQUARE LOADINGS

Factor	Percent of Variance	Cumulative Percent
1 Decisions related to meeting the needs of critical constituents (data used: recommendations and conversations with constituents)	8.642%	8.642%
2 Decisions related to influencing college financial expenditures and income (data used: formal studies and reports)	7.733%	16.376%
3 Decisions related to institutional resource allocation and strategic direction (data used: formal studies and conversations with constituents)	7.146%	23.522%
4 Decisions related to implementing mandates, recommendations, and decisions (data used: subjective studies of past outcomes)	6.620%	30.141%
5 Decisions related to hiring, firing, and promoting employees (data used: subjective information on past employee performance)	6.013%	36.154%
6 Decisions related to meeting the needs and influencing the external community (data used: formal studies of internal and external community)	5.331%	41.485%
7 Decisions related to college climate and culture (data used: recommendations and conversations with constituents)	4.578%	46.063%

APPENDIX O

DECISION-MAKING SURVEY FACTOR ANALYSIS SUMMARY

Factor	Survey Category	Survey Item Number	Factor Loading
Decisions related to meeting the needs of critical constituents (data used: recommendations and conversations with constituents) (Factor 1)	Personnel Related Decisions	2a(c)	-.494
		2b(c)	-.417
		2c(c)	-.495
		3(c)	.461
		3(d)	.463
	Board of Trustees or District Office Related Decisions	2b(a)	-.471
		3a(b)	.520
		3b(a)	-.479
	Community Related Decisions	3(c)	-.515
	Facility Related Decisions	1(d)	.643
Decisions related to influencing college financial expenditures and income (data used: formal studies and reports) (Factor 2)	Board of Trustees or District Office Related Decisions	1(a)	-.708
		1(b)	.779
		1(d)	.467
	Community Related Decisions	1(a)	-.743
		1(b)	.543
	Personnel Related Decisions	1(b)	.475
		1(c)	-.413
	Facility Related Decisions	2b(c)	.521
Decisions related to institutional resource allocation and strategic direction (data used: formal studies and conversations with constituents) (Factor 3)	Facility Related Decisions	2a(d)	-.406
		2b(a)	-.497
		2b(d)	.445
		3a(a)	-.533
		3a(d)	.416
		3b(a)	-.706
		3b(b)	.819

	Board of Trustees or District Office Related Decisions	2a(c)	-.782
		2b(a)	.789
Decisions related to implementing mandates, recommendations, and decisions (data used: subjective studies of past outcomes) (Factor 4)	Board of Trustees or District Office Related Decisions	3a(a)	-.453
		3a(b)	.527
		3b(c)	.716
	Facility Related Decisions	2a(c)	.640
		3a(b)	.455
		3b(b)	.611
	Community Related Decisions	1(d)	.739
Decisions related to hiring, firing, and promoting employees (data used: subjective information on past employee performance) (Factor 5)	Personnel Related Decisions	1(d)	.585
		2b(a)	.622
		2b(b)	-.707
		2c(a)	.596
		2c(b)	-.660
	Community Related Decisions	3(a)	.707
Decisions related to meeting the needs and influencing the external community (data used: formal studies of internal and external community) (Factor 6)	Community Related Decisions	2(c)	.456
		2(d)	-.539
		3(b)	.451
		3(c)	.726
	Facility Related Decisions	1(a)	-.452
		1(c)	.463
		2a(b)	-.478
	Board of Trustees Or District Office Related Decisions	2b(d)	.689
Decisions related to college climate and culture (data used: recommendations and conversations with constituents) (Factor 7)	Personnel Related Decisions	2a(a)	-5.08
		2a(b)	.490
		2(c)	-.691
		3(b)	.614

Board of Trustees Or District Office Related Decisions	3b(b)	-.550

APPENDIX P

DECISION-MAKING SURVEY FACTOR CORRELATION MATRIX

Factor	1	2	3	4	5	6	7
1	1.00						
2	.470	1.00					
3	.439	.268	1.00				
4	.326	.072	.083	1.00			
5	.219	.297	.126	.322	1.00		
6	.054	.225	.232	.027	-.133	1.00	
7	.390	.243	.430	.189	.525	.097	1.00

APPENDIX Q

FREQUENCY OF DATA TYPES USED IN DECISION-MAKING BY COLLEGE

College Code	Personnel Related Decisions	Board of Trustees or District Related Decisions	Community Related Decisions	Facility Related Decisions	Total
1	OO=4	PO=6	IO=4	OO=6	PO=11
	OS=4	IS=3	IS=2	PS=4	OO=11
	PO=3	OS=2	PS=2	OS=2	IO=9
	IS=2	OO=1	PO=1	IO=2	OS=7
	IO=2	IO=1	OO=0	PO=1	PS=7
	PS=0	PS=1	OS=0	IS=0	IS=7
2	OS=4	PO=3	IS=3	PS=4	PS=8
	OO=2	PS=2	PS=2	OO=3	OO=7
	IS=2	OO=1	OO=1	IO=2	IS=7
	IO=0	OS=1	IO=0	IS=1	OS=5
	PO=0	IS=1	PO=0	PO=0	PO=3
	PS=0	IO=0	OS=0	OS=0	IO=2
3	OO=3	OS=3	IO=1	OO=2	PS=5
	PS=2	PS=2	IS=1	IO=2	OO=5
	OS=2	OO=0	PS=1	PO=1	OS=5
	IS=1	PO=0	OO=0	OS=0	IO=4
	IO=1	IO=0	OS=0	IS=0	IS=2
	PO=0	IS=0	PO=0	PS=0	PO=1
4	OS=3	PS=2	IO=1	PS=3	OS=7
	IO=1	OS=2	IS=1	OS=2	PS=5
	PO=1	PO=1	OO=1	PO=0	PO=2
	OO=0	OO=0	OS=0	OO=0	IO=2
	IS=0	IS=0	PO=0	IO=0	IS=1
	PS=0	IO=0	PS=0	IS=0	OO=1
5	OO=6	PO=7	IO=3	OO=6	OO=19
	IO=2	OO=4	OO=3	OS=3	IO=11
	PO=2	IO=3	IS=2	IO=3	PO=10
	PS=2	PS=1	PS=1	IS=2	IS=6
	IS=2	OS=0	IO=0	PO=1	PS=4
OS=1	IS=0	PO=0	PS=0	OS=1	

6	OO=8	IS=7	IO=6	OO=11	OO=25
	IS=6	PO=6	IS=4	IO=7	IS=17
	PS=4	PS=6	OO=3	PS=4	IO=17
	OS=3	OO=3	PS=1	PO=3	PS=15
	IO=2	IO=2	PO=1	OS=0	PO=12
	PO=2	OS=0	OS=0	IS=0	OS=3
7	OO=6	PS=6	PS=5	OO=7	PS=19
	IS=5	OO=4	IO=2	IS=4	OO=17
	PS=4	PO=3	IS=2	PS=4	IS=14
	OS=3	IS=3	PO=1	IO=4	IO=10
	IO=2	OS=2	OO=0	OS=1	OS=6
	PO=0	IO=2	OS=0	PO=0	PO=4
8	OS=5	IS=4	IS=4	OO=8	IS=15
	IS=4	PO=3	OS=2	IS=3	OO=12
	OO=3	OS=1	IO=1	PS=3	OS=8
	IO=1	PS=1	OO=1	PO=1	PS=5
	PO=0	OO=0	PS=1	OS=0	PO=4
	PS=0	IO=0	PO=0	IO=0	IO=2
9	PS=5	IS=4	IS=4	OO=5	PS=14
	OO=4	PS=4	OO=2	IO=4	OO=12
	IO=3	PO=3	PS=2	PS=3	IS=10
	OS=2	OO=2	IO=1	IS=2	IO=9
	PO=2	IO=1	OS=0	OS=1	PO=5
	IS=0	OS=1	PO=0	PO=0	OS=4
10	OS=4	PS=3	PS=2	PS=4	PS=9
	IS=2	PO=2	IS=2	OO=3	OO=6
	OO=2	OS=2	OO=1	PO=1	IS=6
	PO=1	IO=2	PO=1	IO=1	OS=6
	IO=1	IO=1	IO=0	IS=1	PO=5
	PS=0	OO=0	OS=0	OS=0	IO=4
11	OS=9	PO=7	IS=5	OO=11	OO=20
	IS=4	IS=5	IO=4	IO=9	IS=17
	PO=2	PS=4	OO=3	IS=2	IS=14
	IO=2	OO=4	PS=2	PS=2	OS=12
	OO=2	OS=3	PO=1	PO=1	PO=11
	PS=1	IO=2	OS=0	OS=0	PS=9
12	PS=7	IS=8	IS=5	OO=9	OO=19
	PO=6	PO=5	IO=4	IO=6	PO=15

	OO=4 OS=3 IO=0 IS=0	OS=4 OO=3 PS=2 IO=1	PS=3 OO=3 PO=0 OS=0	PS=5 PO=4 OS=1 IS=0	PS=14 IS=13 IO=11 OS=8
13	OS=6 PO=4 IS=2 OO=2 IO=1 PS=0	PS=4 IS=4 PO=3 OO=2 OS=1 IO=1	IO=2 OO=2 PS=2 OS=2 PO=1 IS=0	OO=6 IO=5 PS=3 IS=1 OS=0 PO=0	OO=12 OS=9 IO=9 PS=9 PO=8 IS=7
14	PO=2 IS=2 PS=2 IO=1 OO=0 OS=0	OO=6 IO=4 PO=2 OS=0 IS=0 PS=0	IO=3 OO=2 IS=1 OS=0 PO=0 PS=0	OO=5 PS=2 IO=2 PO=1 OS=0 IS=0	OO=13 IO=10 PO=5 PS=4 IS=1 OS=0
15	OS=5 OO=5 IO=2 IS=2 PO=1 PS=0	PO=4 IS=3 PS=3 OO=2 IO=2 OS=1	IS=3 IO=2 PS=2 PO=1 OS=1 OO=0	PS=6 OO=4 IS=2 IO=2 PO=1 OS=0	IS=14 OO=11 PS=11 IO=8 OS=7 PO=7
16	OS=2 IO=1 IS=1 PS=1 OO=0 PO=0	IS=1 IO=1 OS=1 PO=1 OO=0 PS=0	IO=1 PS=1 IS=1 OO=0 PO=0 OS=0	OO=2 IS=1 IO=1 PS=1 OS=0 PO=0	IO=4 IS=4 PS=3 OS=3 OO=2 PO=1
17	OO=3 IO=1 IS=1 OS=0 PO=0 PS=0	PS=2 OS=2 PO=1 OO=0 IO=0 IS=0	IO=1 IS=1 OO=1 OS=0 PO=0 PS=0	PS=3 IO=2 PO=0 OO=0 IS=0 OS=0	PS=5 IO=4 OO=4 IS=2 OS=2 PO=1
18	OS=3	PO=3	IS=3	OO=5	IO=9

	IO=3	PS=2	IO=2	IO=4	OO=8
	OO=2	IS=2	OS=1	PS=1	IS=6
	PS=1	OS=2	OO=0	OS=0	OS=6
	IS=1	OO=1	PO=0	IS=0	PS=4
	PO=0	IO=0	PS=0	PO=0	PO=3
Total	OS=60	PO=60	IS=44	OO=93	OO=205
	OO=56	PS=45	IO=38	IO=56	PS=150
	IS=37	IS=42	PS=27	PS=52	IS=146
	PS=29	OO=32	OO=23	IS=19	IO=142
	IO=26	OS=28	PO=7	PO=15	PO=108
	PO=26	IO=22	OS=6	OS=10	OS=99

APPENDIX R

COLLEGE ORGANIZATIONAL EFFECTIVENESS RANKING AND DATA TYPE FREQUENCY

College Code	College Organizational Effectiveness Rank By Grand Mean	Data Used in Decision-Making By Frequency	Data Used in Decision-Making By Percentage
14	1 (4.83)	Output Objective = 13	39%
		Input Objective = 10	30%
		Process Objective = 5	15%
		Process Subjective = 4	12%
		Input Subjective = 1	3%
6	2 (4.61)	Output Objective = 25	28%
		Input Objective = 17	19%
		Input Subjective = 17	19%
		Process Subjective = 15	17%
		Process Objective = 12	13%
		Output Subjective = 3	3%
5	3 (4.50)	Output Objective = 19	37%
		Input Objective = 11	22%
		Process Objective = 10	20%
		Input Subjective = 6	12%
		Process Subjective = 4	8%
		Output Subjective = 1	2%
7	4 (4.49)	Process Subjective = 19	27%
		Output Objective = 17	24%
		Input Subjective = 14	20%
		Input Objective = 10	14%
		Output Subjective = 6	9%
		Process Objective = 4	6%
18	5 (4.48)	Input Objective = 9	25%
		Output Objective = 8	22%
		Output Subjective = 6	17%
		Input Subjective = 6	17%
		Process Subjective = 4	11%
		Process Objective = 3	8%
4	6 (4.42)	Output Subjective = 7	39%
		Process Subjective = 5	28%
		Input Objective = 2	11%
		Process Objective = 2	11%
		Output Objective = 1	6%
		Input Subjective = 1	6%

16	7 (4.35)	Input Objective = 4	24%
		Input Subjective = 4	24%
		Output Subjective = 3	18%
		Process Subjective = 3	18%
		Output Objective = 2	12%
		Process Objective = 1	6%
12	8 (4.30)	Output Objective = 19	24%
		Process Objective = 15	19%
		Process Subjective = 14	18%
		Input Subjective = 13	16%
		Input Objective = 11	14%
		Output Subjective = 8	10%
13	8 (4.30)	Output Objective = 12	22%
		Input Objective = 9	17%
		Process Subjective = 9	17%
		Output Subjective = 9	17%
		Process Objective = 8	15%
		Input Subjective = 7	13%
1	9 (4.25)	Output Objective = 11	21%
		Process Objective = 11	21%
		Input Objective = 9	17%
		Output Subjective = 7	13%
		Process Subjective = 7	13%
		Input Subjective = 7	13%
15	10 (4.23)	Input Subjective = 14	23%
		Output Objective = 11	18%
		Process Subjective = 11	18%
		Input Objective = 8	13%
		Output Subjective = 7	11%
		Process Objective = 7	11%
		Input Subjective = 4	7%
17	10 (4.23)	Process Subjective = 5	28%
		Input Objective = 4	22%
		Output Objective = 4	22%
		Input Subjective = 2	11%
		Output Subjective = 2	11%
		Process Objective = 1	6%
11	11 (4.22)	Output Objective = 20	24%
		Input Objective = 17	20%
		Input Subjective = 14	17%
		Output Subjective = 12	14%

		Process Objective = 11	13%
		Process Subjective = 9	11%
10	12 (4.20)	Process Subjective = 9	25%
		Output Subjective = 6	17%
		Output Objective = 6	17%
		Input Subjective = 6	17%
		Process Objective = 5	14%
		Input Objective = 4	11%
9	13 (4.11)	Process Subjective = 14	26%
		Output Objective = 13	24%
		Input Subjective = 10	18%
		Input Objective = 9	16%
		Process Objective = 5	9%
		Output Subjective = 4	7%
8	14 (4.00)	Input Subjective = 15	33%
		Output Objective = 12	26%
		Output Subjective = 8	17%
		Process Subjective = 5	11%
		Process Objective = 4	9%
		Input Objective = 2	4%
2	15 (3.96)	Process Subjective = 8	25%
		Input Subjective = 7	22%
		Output Objective = 7	22%
		Output Subjective = 5	16%
		Process Objective = 3	9%
		Input Objective = 2	6%
3	16 (3.70)	Process Subjective = 5	23%
		Output Objective = 5	23%
		Output Subjective = 5	23%
		Input Objective = 4	18%
		Input Subjective = 2	9%
		Process Objective = 1	5%

Note. Percentages may not sum to 100% due to rounding error.

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VITA

Brian W. Mann was born on January 31, 1970, in Chicago, Illinois. He moved with his family to Kansas City, Missouri in 1978. He was educated in local public schools and graduated from North Kansas City High School in 1988. Mr. Mann spent the summer of 1989 studying western civilization at the University of Constance in Constance, Germany. He received his Associate of Arts degree from the Metropolitan Community Colleges in 1990. Mr. Mann earned a scholarship that provided full tuition to attend Southwest Missouri State University in Springfield, Missouri and graduated with a major in Psychology and a minor in Biology, cum laude in 1992. In 1993, Mr. Mann completed a Master of Arts degree in Industrial and Organizational Psychology from the University of Tulsa in Tulsa, Oklahoma.

Mr. Mann returned to Kansas City in 1994 and gained employment at Maple Woods Community College as a Continuing Education Coordinator where he worked with local businesses and government agencies to develop and implement customized technical training programs. In 1995, Mr. Mann's division at Maple Woods Community College was relocated to the Business and Technology Center where he served as Program Director of Industrial Technology and Business Assessment until 1999. The district office of the Metropolitan Community Colleges hired Mr. Mann at that time as Administrator of Strategic Planning. In late 1999, Mr. Mann accepted a Research Associate position at the Ewing Marion Kauffman Foundation and was promoted to Senior Research Associate the next year.

While employed at the Business and Technology Center, Mr. Mann began an Educational Specialist Degree in Higher Education Administration at the University of Missouri – Kansas City in 1996 and graduated in 1998. He began work toward his Doctorate of Education Degree in 1998 at the University of Missouri – Kansas City. Upon completion, Mr. Mann will continue employment at Ewing Marion Kauffman Foundation and at Park University as an Adjunct Faculty Member.

Mr. Mann is an active member of the American Educational Research Association, Grant makers Evaluation Network – Grant makers for Effective Organizations, and the Grant makers for Education Association.

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